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US OCR Full-Text Database
EPO Abstracts Database
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IBM Technical Disclosure Bulletins

Term: RD-422061-A.did.

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Set Name side by side	Query	Hit Count	Set Name result set
DB=EPAB; THES=ASSIGNEE; PLUR=YES; OP=OR			
L11	RD-422061-A.did.	0	L11
DB=EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR			
L10	L9 and (online or web or www or internet)	3	L10
L9	vehicle and (remote$ with diagnos$) and @pd<=20011012	77	L9
DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR			
L8	L7 and 705/?.ccls.	9	L8
L7	vehicle and (remote$ with diagnos$) and @ad<=20011012	591	L7
L6	L1 and (remote$ with diagnos$)	0	L6
L5	L1 and (online or web or www or internet)	0	L5
L4	L1 and sens$	1	L4
L3	L1 and (record$ same (ques$ or problem$))	1	L3
L2	L1 and (record$ same quer$)	0	L2
L1	5341291.pn.	1	L1

END OF SEARCH HISTORY

Hit List

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: WO 200126337 A2, AU 200078718 A

Using default format because multiple data bases are involved.

L10: Entry 1 of 3 File: DWPI Apr 12, 2001

DERWENT-ACC-NO: 2001-374272
DERWENT-WEEK: 200139
COPYRIGHT 2005 DERWENT INFORMATION LTD
TITLE: Remote controlling of electronic components in vehicles through Internet, involves providing automatic secure inter operations to multiple network in vehicle, corresponding to node information

INVENTOR: GELVIN, D C; GIROD, L D ; KAISER, W J ; NEWBERG, F ; POTTIE, G J

PRIORITY-DATA: 2000US-0685020 (October 4, 2000), 1999US-158013P (October 6, 1999), 1999US-170865P (December 15, 1999), 2000US-208397P (May 30, 2000), 2000US-210296P (June 8, 2000), 2000US-0680550 (October 4, 2000), 2000US-0680608 (October 4, 2000), 2000US-0684162 (October 4, 2000), 2000US-0684387 (October 4, 2000), 2000US-0684388 (October 4, 2000), 2000US-0684490 (October 4, 2000), 2000US-0684565 (October 4, 2000), 2000US-0684706 (October 4, 2000), 2000US-0684742 (October 4, 2000), 2000US-0685018 (October 4, 2000), 2000US-0685019 (October 4, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200126337 A2	April 12, 2001	E	085	H04L029/06
AU 200078718 A	May 10, 2001		000	H04L029/06

INT-CL (IPC): H04 L 29/06

Full | Title | Citation | Front | Review | Classification | Date | Reference | [illegible] | Claims | KWIC | Draw De

☐ 2. Document ID: WO 200078057 A1, AU 200057384 A

L10: Entry 2 of 3 File: DWPI Dec 21, 2000

DERWENT-ACC-NO: 2001-354422
DERWENT-WEEK: 200254
COPYRIGHT 2005 DERWENT INFORMATION LTD

TITLE: Real time vehicle or equipment management system has processor with local primary focal node and modular software such as trusted remote activity controller for interfacing activity controllers of control equipment

Full | Title | Citation | Front | Review | Classification | Date | Reference | [illegible] | Claims | KWIC | Draw De

☐ 3. Document ID: RD 422061 A

L10: Entry 3 of 3 File: DWPI Jun 10, 1999

DERWENT-ACC-NO: 1999-417431
DERWENT-WEEK: 199935

TITLE: Using Internet for vehicle diagnostics - enabling using to operate vehicle personal computer to direct web browser to vehicle diagnostics website, for commanding vehicle computer to collect diagnostic trouble codes from vehicle control units, for website diagnosis

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
L9 and (online or web or www or internet)	3

Display Format: - Change Format

Previous Page Next Page Go to Doc#

L10: Entry 1 of 3 File: DWPI Apr 12, 2001

DERWENT-ACC-NO: 2001-374272
DERWENT-WEEK: 200139

TITLE: Remote controlling of electronic components in vehicles through Internet, involves providing automatic secure inter operations to multiple network in vehicle, corresponding to node information

INVENTOR: GELVIN, D C; GIROD, L D ; KAISER, W J ; NEWBERG, F ; POTTIE, G J

PATENT-ASSIGNEE: SENSORIA CORP (SENSN)

PRIORITY-DATA: 2000US-0685020 (October 4, 2000), 1999US-158013P (October 6, 1999), 1999US-170865P (December 15, 1999), 2000US-208397P (May 30, 2000), 2000US-210296P (June 8, 2000), 2000US-0680550 (October 4, 2000), 2000US-0680608 (October 4, 2000), 2000US-0684162 (October 4, 2000), 2000US-0684387 (October 4, 2000), 2000US-0684388 (October 4, 2000), 2000US-0684490 (October 4, 2000), 2000US-0684565 (October 4, 2000), 2000US-0684706 (October 4, 2000), 2000US-0684742 (October 4, 2000), 2000US-0685018 (October 4, 2000), 2000US-0685019 (October 4, 2000)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	WO 200126337 A2	April 12, 2001	E	085	H04L029/06
☐	AU 200078718 A	May 10, 2001		000	H04L029/06

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200126337A2	October 5, 2000	2000WO-US27763	
AU 200078718A	October 5, 2000	2000AU-0078718	
AU 200078718A		WO 200126337	Based on

INT-CL (IPC): H04 L 29/06

RELATED-ACC-NO: 2001-335577;2001-354982 ;2001-354983 ;2001-354984 ;2001-367242 ;2001-367243 ;2001-425078 ;2001-457064 ;2001-457065 ;2001-457066 ;2001-457067

ABSTRACTED-PUB-NO: WO 200126337A
BASIC-ABSTRACT:

NOVELTY - Functions like formation of subnets, routing and security for multimedia traffic, control based on priority and security levels. If inter networked components are controlled, remotely based on node information with configuration and security information, and providing inter operations between network to control electronic device in vehicle.

DETAILED DESCRIPTION - Network elements are connected via vehicle inter network connected to Internet (110). An INDEPENDENT CLAIM is also included for recording medium recorded with vehicle component remote control program.

USE - For remote control of electronic components such as climate control device, actuator, GPS device, communication device, cellular telephone, PDA, processors, diagnostic device, modem, pager, audio/video devices, electronic game device, sensor, switch, anti-theft device, WLAN device connected over wireless integrated network sensor (WINS) inter network for vehicle assembly, maintenance, fleet management and analysis and targeted advertising applications in automobiles, aircraft, train, motor cycle, marine vessel.

ADVANTAGE - The WINS inter network technology enables changes to the topology using the protocols, for self-organization and modulator construction and authentication with less human intervention. The same infrastructure can be used throughout vehicle life to ensure reliable operation and enables low-cost monitoring of vehicle assembly, reliably.

DESCRIPTION OF DRAWING(S) - The figure shows the WINS NG network in vehicle.

Internet 110

ABSTRACTED-PUB-NO: WO 200126337A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/23

DERWENT-CLASS: T01 W01 X22
EPI-CODES: T01-H07C3D; T01-H07C5C; T01-H07C5E; T01-H07P; T01-J06B1; T01-J07C; T01-J12C; T01-J20B1; T01-S03; W01-A06B5A; W01-A06B7; W01-A06C4; W01-A06G3; W01-A07G; W01-C05B3A; X22-J;

Previous Doc Next Doc Go to Doc#

L10: Entry 2 of 3 File: DWPI Dec 21, 2000

DERWENT-ACC-NO: 2001-354422
DERWENT-WEEK: 200254

TITLE: Real time vehicle or equipment management system has processor with local primary focal node and modular software such as trusted remote activity controller for interfacing activity controllers of control equipment

INVENTOR: WALKER, R C

PATENT-ASSIGNEE: KLINE & WALKER LLC (KLINN)

PRIORITY-DATA: 2000US-200872P (May 1, 2000), 1999US-139759P (June 15, 1999), 2000US-176818P (January 19, 2000)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	WO 200078057 A1	December 21, 2000	E	224	H04Q001/00
☐	AU 200057384 A	January 2, 2001		000	H04Q001/00

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200078057A1	June 15, 2000	2000WO-US16381	
AU 200057384A	June 15, 2000	2000AU-0057384	
AU 200057384A		WO 200078057	Based on

INT-CL (IPC): G01 S 5/02; G06 F 7/04; G06 F 13/00; H04 B 7/185; H04 M 11/00; H04 Q 1/00

RELATED-ACC-NO: 1999-444361;2000-097663 ;2001-024265 ;2001-638809 ;2002-121913

ABSTRACTED-PUB-NO: WO 200078057A
BASIC-ABSTRACT:

NOVELTY - Processor connected to memory and communicating with external devices comprises a local primary focal node (PFN) and has programmable hardware and

modular software or firmware called as trusted remote activity controller (TRAC). The software enables automated and remote control accountability for communication equipments as determined by industry or Government standard protocols and for interfacing activity controllers of control equipment.

DETAILED DESCRIPTION - The management system comprises sensory device for monitoring and reporting on data comprising command function results of peripheral devices and equipments. The memory is connected to sensory device and arranged in the vehicle or equipment for storing interface protocols for interfacing and communicating with peripheral devices that perform automated and remote control function. The external device connected to processor comprises electrical activating accessory, a peripheral device controlling automated remote control function using electricity, compressed air, gases, vacuum, hydraulic and fluid pressure, motors, mechanical or silicon relay, pistons, cylinders, pumps, valves, linkage levers, shifter forks, paws, ratchets, couplers, gearing or power transfer mechanism, cases, brake pads, disk assemblies, drums, clutches or interlocking drive mechanism, spined hub collars or shafts. The external device is connected to process through a two-way communication system comprising a security device or routine to conduction signal with a security protocol.

INDEPENDENT CLAIMS are also included for the following:

(a) Portable primary focal node (PFN) tracking device;

(b) Connectable system software (TRAC);

(c) Local PFN with trusted remote activity controller (TRAC);

(d) TRAC software record keeping of device serial numbers and personal indication numbers for its authorization and authentication program;

(e) Electrical seal system for detecting tampering and for providing water resistant seal protection;

(f) Universal communication interface for routing function;

(g) Memory for data processed using TRAC system;

(h) Remote control of actuators using PFN and processor;

(i) Accountability for activity controls confirmed by feedback sensor;

(j) Application specific sensing and supply data to monitoring or management system;

(k) Internet system for interactive highway;

(l) Interfacing or uplinking of remote monitor or management system;

(m) Switching;

(n) Machine messaging networks and computer networks;

(o) National registry to track and identify equipments and components;

(p) Spider eyes program and multitasking law enforcement tool to shutdown vehicle;

(q) Automated and remote controlled communication routing of wireless or land line;

(r) TRAC/FACT programming and hardware system for interconnecting internets

USE - Vehicle or equipment system used for management remote controlling robotic function to activate and control vehicle operation, remotely billing for use of vehicle, remotely operating machine, evaluating and diagnosing computer or processor malfunctions, remotely ordering materials and service personal to perform service and repairs, remote performing repairs electronically and remotely shutting down equipment, to restrict unauthorized use of equipment, to record and preserve data in acceptable legal manner, monitoring equipment for health and safety conditions affecting public such as reckless driving, driver impairment, pollution, vehicle unsafeness, recording and reporting monitoring gateway for billing user for use of highway, for accident investigation and machine accidents, recording audio and video of capture criminals incidents by activating and unattended vehicle system to report criminal events through remote control, recording audio and video of weather and traffic conditions, etc.

ADVANTAGE - Unauthorized access of vehicles and equipment can be prevented from remote place.

DESCRIPTION OF DRAWING(S) - The figure shows the PFN/TRAC system of four main areas of involvement comprising control security technology, mobile management, home management and commercial management.

ABSTRACTED-PUB-NO: WO 200078057A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1A/25

DERWENT-CLASS: T01 T05 W01 W02 W05
EPI-CODES: T01-C03C; T01-H07C; T01-J05A2; T05-G01; T05-G02; W01-A06; W02-C03; W05-B05;

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L10: Entry 3 of 3 File: DWPI Jun 10, 1999

DERWENT-ACC-NO: 1999-417431
DERWENT-WEEK: 199935

TITLE: Using Internet for vehicle diagnostics - enabling using to operate vehicle personal computer to direct web browser to vehicle diagnostics website, for commanding vehicle computer to collect diagnostic trouble codes from vehicle control units, for website diagnosis

PATENT-ASSIGNEE: ANONYMOUS (ANON)

PRIORITY-DATA: 1999RD-0422061 (May 20, 1999)

Search Selected Search ALL Clear

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	RD 422061 A	June 10, 1999		001	G06F000/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
RD 422061A	May 20, 1999	1999RD-0422061	

INT-CL (IPC): G06 F 0/00

ABSTRACTED-PUB-NO: RD 422061A
BASIC-ABSTRACT:

NOVELTY - The method involves fitting a vehicle with a personal computer (PC) that can connect to the internet. The device is installed and equipped with diagnostic command generator cards, so that websites specifically devoted to vehicle diagnostics can be implemented. The customer directs their web browser to the appropriate website, which commands the PC to collect the diagnostic trouble codes from each electronic control unit in the vehicle. The PC then reports the information to the website, for subsequent website consultation with its database to identify conditions, likely causes and best courses of action.

USE - For remote diagnosis of vehicle faults.

ADVANTAGE - User may be able to correct the fault personally, or website can identify nearest vehicle dealership. The website can download data into a database to provide better field data.

ABSTRACTED-PUB-NO: RD 422061A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: T01 W01 X22
EPI-CODES: T01-H07C3E; T01-H07C5E; W01-A06B7; X22-A05; X22-X06;

Previous Doc Next Doc Go to Doc#

First Hit Fwd Refs Previous Doc Next Doc Go to Doc#

End of Result Set

☐ Generate Collection Print

L3: Entry 1 of 1 File: USPT Aug 23, 1994

DOCUMENT-IDENTIFIER: US 5341291 A
TITLE: Portable medical interactive test selector having plug-in replaceable memory

Brief Summary Text (8):
Under current medical practice, it requires about seventy-five or more questions to determine which, if any, of the various available pre-operative tests (urinalysis, chest x-rays, EKG, etc.) might have to be performed before determining what anesthesia ought to be used during surgery. If the physician is not sure that all these questions were properly asked, or has doubts about the care with which the patient's answers have been recorded, he or she is likely to include in the battery of preoperative tests many that could have been excluded based on an accurate patient history.

Detailed Description Text (52):
The main subroutines are those for Asking Questions and Recording Answers 82, Printing a Report for the Doctor, Printing the Patient's Questions and Answers for Signature, Setting the Time and Date 88, and various Utilities 90. If optional language ROM 2 is installed, whenever 82, 84, or 86 is selected, the language that should be used is next determined by a corresponding language option routine 83, 85 or 87.

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Hit List

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: WO 200126337 A2, AU 200078718 A

Using default format because multiple data bases are involved.

L10: Entry 1 of 3 File: DWPI Apr 12, 2001

DERWENT-ACC-NO: 2001-374272
DERWENT-WEEK: 200139
COPYRIGHT 2005 DERWENT INFORMATION LTD
TITLE: Remote controlling of electronic components in vehicles through Internet, involves providing automatic secure inter operations to multiple network in vehicle, corresponding to node information

INVENTOR: GELVIN, D C; GIROD, L D ; KAISER, W J ; NEWBERG, F ; POTTIE, G J

PRIORITY-DATA: 2000US-0685020 (October 4, 2000), 1999US-158013P (October 6, 1999), 1999US-170865P (December 15, 1999), 2000US-208397P (May 30, 2000), 2000US-210296P (June 8, 2000), 2000US-0680550 (October 4, 2000), 2000US-0680608 (October 4, 2000), 2000US-0684162 (October 4, 2000), 2000US-0684387 (October 4, 2000), 2000US-0684388 (October 4, 2000), 2000US-0684490 (October 4, 2000), 2000US-0684565 (October 4, 2000), 2000US-0684706 (October 4, 2000), 2000US-0684742 (October 4, 2000), 2000US-0685018 (October 4, 2000), 2000US-0685019 (October 4, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200126337 A2	April 12, 2001	E	085	H04L029/06
AU 200078718 A	May 10, 2001		000	H04L029/06

INT-CL (IPC): H04 L 29/06

Full | Title | Citation | Front | Review | Classification | Date | Reference | [illegible] | Claims | KWIC | Draw D

☐ 2. Document ID: WO 200078057 A1, AU 200057384 A

L10: Entry 2 of 3 File: DWPI Dec 21, 2000

DERWENT-ACC-NO: 2001-354422
DERWENT-WEEK: 200254
COPYRIGHT 2005 DERWENT INFORMATION LTD

TITLE: Real time vehicle or equipment management system has processor with local primary focal node and modular software such as trusted remote activity controller for interfacing activity controllers of control equipment

Full | Title | Citation | Front | Review | Classification | Date | Reference | [illegible] | Claims | KWIC | Draw D

☐ 3. Document ID: RD 422061 A

L10: Entry 3 of 3 File: DWPI Jun 10, 1999

DERWENT-ACC-NO: 1999-417431
DERWENT-WEEK: 199935

TITLE: Using Internet for vehicle diagnostics - enabling using to operate vehicle personal computer to direct web browser to vehicle diagnostics website, for commanding vehicle computer to collect diagnostic trouble codes from vehicle control units, for website diagnosis

Terms	Documents
L9 and (online or web or www or internet)	3

L10: Entry 1 of 3 File: DWPI Apr 12, 2001

DERWENT-ACC-NO: 2001-374272
DERWENT-WEEK: 200139

TITLE: Remote controlling of electronic components in vehicles through Internet, involves providing automatic secure inter operations to multiple network in vehicle, corresponding to node information

INVENTOR: GELVIN, D C; GIROD, L D ; KAISER, W J ; NEWBERG, F ; POTTIE, G J

PATENT-ASSIGNEE: SENSORIA CORP (SENSN)

PRIORITY-DATA: 2000US-0685020 (October 4, 2000), 1999US-158013P (October 6, 1999), 1999US-170865P (December 15, 1999), 2000US-208397P (May 30, 2000), 2000US-210296P (June 8, 2000), 2000US-0680550 (October 4, 2000), 2000US-0680608 (October 4, 2000), 2000US-0684162 (October 4, 2000), 2000US-0684387 (October 4, 2000), 2000US-0684388 (October 4, 2000), 2000US-0684490 (October 4, 2000), 2000US-0684565 (October 4, 2000), 2000US-0684706 (October 4, 2000), 2000US-0684742 (October 4, 2000), 2000US-0685018 (October 4, 2000), 2000US-0685019 (October 4, 2000)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	WO 200126337 A2	April 12, 2001	E	085	H04L029/06
☐	AU 200078718 A	May 10, 2001		000	H04L029/06

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200126337A2	October 5, 2000	2000WO-US27763	
AU 200078718A	October 5, 2000	2000AU-0078718	
AU 200078718A		WO 200126337	Based on

INT-CL (IPC): H04 L 29/06

RELATED-ACC-NO: 2001-335577;2001-354982 ;2001-354983 ;2001-354984 ;2001-367242 ;2001-367243 ;2001-425078 ;2001-457064 ;2001-457065 ;2001-457066 ;2001-457067

ABSTRACTED-PUB-NO: WO 200126337A
BASIC-ABSTRACT:

NOVELTY - Functions like formation of subnets, routing and security for multimedia traffic, control based on priority and security levels. If inter networked components are controlled, remotely based on node information with configuration and security information, and providing inter operations between network to control electronic device in vehicle.

DETAILED DESCRIPTION - Network elements are connected via vehicle inter network connected to Internet (110). An INDEPENDENT CLAIM is also included for recording medium recorded with vehicle component remote control program.

USE - For remote control of electronic components such as climate control device, actuator, GPS device, communication device, cellular telephone, PDA, processors, diagnostic device, modem, pager, audio/video devices, electronic game device, sensor, switch, anti-theft device, WLAN device connected over wireless integrated network sensor (WINS) inter network for vehicle assembly, maintenance, fleet management and analysis and targeted advertising applications in automobiles, aircraft, train, motor cycle, marine vessel.

ADVANTAGE - The WINS inter network technology enables changes to the topology using the protocols, for self-organization and modulator construction and authentication with less human intervention. The same infrastructure can be used throughout vehicle life to ensure reliable operation and enables low-cost monitoring of vehicle assembly, reliably.

DESCRIPTION OF DRAWING(S) - The figure shows the WINS NG network in vehicle.

Internet 110

ABSTRACTED-PUB-NO: WO 200126337A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/23

DERWENT-CLASS: T01 W01 X22
EPI-CODES: T01-H07C3D; T01-H07C5C; T01-H07C5E; T01-H07P; T01-J06B1; T01-J07C; T01-J12C; T01-J20B1; T01-S03; W01-A06B5A; W01-A06B7; W01-A06C4; W01-A06G3; W01-A07G; W01-C05B3A; X22-J;

Previous Doc Next Doc Go to Doc#

L10: Entry 2 of 3 File: DWPI Dec 21, 2000

DERWENT-ACC-NO: 2001-354422
DERWENT-WEEK: 200254

TITLE: Real time vehicle or equipment management system has processor with local primary focal node and modular software such as trusted remote activity controller for interfacing activity controllers of control equipment

INVENTOR: WALKER, R C

PATENT-ASSIGNEE: KLINE & WALKER LLC (KLINN)

PRIORITY-DATA: 2000US-200872P (May 1, 2000), 1999US-139759P (June 15, 1999), 2000US-176818P (January 19, 2000)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	WO 200078057 A1	December 21, 2000	E	224	H04Q001/00
☐	AU 200057384 A	January 2, 2001		000	H04Q001/00

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200078057A1	June 15, 2000	2000WO-US16381	
AU 200057384A	June 15, 2000	2000AU-0057384	
AU 200057384A		WO 200078057	Based on

INT-CL (IPC): G01 S 5/02; G06 F 7/04; G06 F 13/00; H04 B 7/185; H04 M 11/00; H04 Q 1/00

RELATED-ACC-NO: 1999-444361;2000-097663 ;2001-024265 ;2001-638809 ;2002-121913

ABSTRACTED-PUB-NO: WO 200078057A
BASIC-ABSTRACT:

NOVELTY - Processor connected to memory and communicating with external devices comprises a local primary focal node (PFN) and has programmable hardware and

modular software or firmware called as trusted remote activity controller (TRAC). The software enables automated and remote control accountability for communication equipments as determined by industry or Government standard protocols and for interfacing activity controllers of control equipment.

DETAILED DESCRIPTION - The management system comprises sensory device for monitoring and reporting on data comprising command function results of peripheral devices and equipments. The memory is connected to sensory device and arranged in the vehicle or equipment for storing interface protocols for interfacing and communicating with peripheral devices that perform automated and remote control function. The external device connected to processor comprises electrical activating accessory, a peripheral device controlling automated remote control function using electricity, compressed air, gases, vacuum, hydraulic and fluid pressure, motors, mechanical or silicon relay, pistons, cylinders, pumps, valves, linkage levers, shifter forks, paws, ratchets, couplers, gearing or power transfer mechanism, cases, brake pads, disk assemblies, drums, clutches or interlocking drive mechanism, spined hub collars or shafts. The external device is connected to process through a two-way communication system comprising a security device or routine to conduction signal with a security protocol.

INDEPENDENT CLAIMS are also included for the following:

(a) Portable primary focal node (PFN) tracking device;

(b) Connectable system software (TRAC);

(c) Local PFN with trusted remote activity controller (TRAC);

(d) TRAC software record keeping of device serial numbers and personal indication numbers for its authorization and authentication program;

(e) Electrical seal system for detecting tampering and for providing water resistant seal protection;

(f) Universal communication interface for routing function;

(g) Memory for data processed using TRAC system;

(h) Remote control of actuators using PFN and processor;

(i) Accountability for activity controls confirmed by feedback sensor;

(j) Application specific sensing and supply data to monitoring or management system;

(k) Internet system for interactive highway;

(l) Interfacing or uplinking of remote monitor or management system;

(m) Switching;

(n) Machine messaging networks and computer networks;

(o) National registry to track and identify equipments and components;

(p) Spider eyes program and multitasking law enforcement tool to shutdown vehicle;

(q) Automated and remote controlled communication routing of wireless or land line;

(r) TRAC/FACT programming and hardware system for interconnecting internets

USE - Vehicle or equipment system used for management remote controlling robotic function to activate and control vehicle operation, remotely billing for use of vehicle, remotely operating machine, evaluating and diagnosing computer or processor malfunctions, remotely ordering materials and service personal to perform service and repairs, remote performing repairs electronically and remotely shutting down equipment, to restrict unauthorized use of equipment, to record and preserve data in acceptable legal manner, monitoring equipment for health and safety conditions affecting public such as reckless driving, driver impairment, pollution, vehicle unsafeness, recording and reporting monitoring gateway for billing user for use of highway, for accident investigation and machine accidents, recording audio and video of capture criminals incidents by activating and unattended vehicle system to report criminal events through remote control, recording audio and video of weather and traffic conditions, etc.

ADVANTAGE - Unauthorized access of vehicles and equipment can be prevented from remote place.

DESCRIPTION OF DRAWING(S) - The figure shows the PFN/TRAC system of four main areas of involvement comprising control security technology, mobile management, home management and commercial management.

ABSTRACTED-PUB-NO: WO 200078057A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1A/25

DERWENT-CLASS: T01 T05 W01 W02 W05
EPI-CODES: T01-C03C; T01-H07C; T01-J05A2; T05-G01; T05-G02; W01-A06; W02-C03; W05-B05;

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L10: Entry 3 of 3 File: DWPI Jun 10, 1999

DERWENT-ACC-NO: 1999-417431
DERWENT-WEEK: 199935

TITLE: Using Internet for vehicle diagnostics - enabling using to operate vehicle personal computer to direct web browser to vehicle diagnostics website, for commanding vehicle computer to collect diagnostic trouble codes from vehicle control units; for website diagnosis

PATENT-ASSIGNEE: ANONYMOUS (ANON)

PRIORITY-DATA: 1999RD-0422061 (May 20, 1999)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	RD 422061 A	June 10, 1999		001	G06F000/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
RD 422061A	May 20, 1999	1999RD-0422061	

INT-CL (IPC): G06 F 0/00

ABSTRACTED-PUB-NO: RD 422061A
BASIC-ABSTRACT:

NOVELTY - The method involves fitting a vehicle with a personal computer (PC) that can connect to the internet. The device is installed and equipped with diagnostic command generator cards, so that websites specifically devoted to vehicle diagnostics can be implemented. The customer directs their web browser to the appropriate website, which commands the PC to collect the diagnostic trouble codes from each electronic control unit in the vehicle. The PC then reports the information to the website, for subsequent website consultation with its database to identify conditions, likely causes and best courses of action.

USE - For remote diagnosis of vehicle faults.

ADVANTAGE - User may be able to correct the fault personally, or website can identify nearest vehicle dealership. The website can download data into a database to provide better field data.

ABSTRACTED-PUB-NO: RD 422061A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: T01 W01 X22
EPI-CODES: T01-H07C3E; T01-H07C5E; W01-A06B7; X22-A05; X22-X06;

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L10: Entry 3 of 3 File: DWPI Jun 10, 1999

DERWENT-ACC-NO: 1999-417431
DERWENT-WEEK: 199935

TITLE: Using Internet for vehicle diagnostics - enabling using to operate vehicle personal computer to direct web browser to vehicle diagnostics website, for commanding vehicle computer to collect diagnostic trouble codes from vehicle control units, for website diagnosis

PATENT-ASSIGNEE:

ASSIGNEE	CODE
ANONYMOUS	ANON

PRIORITY-DATA: 1999RD-0422061 (May 20, 1999)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	RD 422061 A	June 10, 1999		001	G06F000/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
RD 422061A	May 20, 1999	1999RD-0422061	

INT-CL (IPC): G06 F 0/00

ABSTRACTED-PUB-NO: RD 422061A
BASIC-ABSTRACT:

NOVELTY - The method involves fitting a vehicle with a personal computer (PC) that can connect to the internet. The device is installed and equipped with diagnostic command generator cards, so that websites specifically devoted to vehicle diagnostics can be implemented. The customer directs their web browser to the appropriate website, which commands the PC to collect the diagnostic trouble codes from each electronic control unit in the vehicle. The PC then reports the information to the website, for subsequent website consultation with its database to identify conditions, likely causes and best courses of action.

USE - For remote diagnosis of vehicle faults.

ADVANTAGE - User may be able to correct the fault personally, or website can identify nearest vehicle dealership. The website can download data into a database to provide better field data.

CHOSEN-DRAWING: Dwg.1/1

TITLE-TERMS: VEHICLE DIAGNOSE ENABLE OPERATE VEHICLE PERSON COMPUTER DIRECT WEB VEHICLE DIAGNOSE COMMAND VEHICLE COMPUTER COLLECT DIAGNOSE TROUBLE CODE VEHICLE CONTROL UNIT DIAGNOSE

DERWENT-CLASS: T01 W01 X22

EPI-CODES: T01-H07C3E; T01-H07C5E; W01-A06B7; X22-A05; X22-X06;

SECONDARY-ACC-NO:
Non-CPI Secondary Accession Numbers: N1999-311489

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Refine Search

Search Results -

Terms	Documents
L9 and (online or web or www or internet)	3

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L10

Refine Search

Recall Text | Clear | Interrupt

Search History

DATE: Friday, February 04, 2005 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR			
L10	L9 and (online or web or www or internet)	3	L10
L9	vehicle and (remote$ with diagnos$) and @pd<=20011012	77	L9
DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR			
L8	L7 and 705/?.ccls.	9	L8
L7	vehicle and (remote$ with diagnos$) and @ad<=20011012	591	L7
L6	L1 and (remote$ with diagnos$)	0	L6
L5	L1 and (online or web or www or internet)	0	L5
L4	L1 and sens$	1	L4
L3	L1 and (record$ same (ques$ or problem$))	1	L3
L2	L1 and (record$ same quer$)	0	L2
L1	5341291.pn.	1	L1

END OF SEARCH HISTORY

L8: Entry 6 of 9 File: USPT Jun 4, 2002

DOCUMENT-IDENTIFIER: US 6401085 B1
TITLE: Mobile communication and computing system and method

Application Filing Date (1):
19990305

Detailed Description Text (167):
FIG. 17 presents the detailed logic associated with the many different methods for accessing this centrally stored profile. The profile database 1710 is the central storage place for the users' profile information. The profile gateway server 1720 receives all requests for profile information, whether from the user himself or merchants trying to provide a service to the user. The profile gateway server is responsible for ensuring that information is only given out when the profile owner specifically grants permission. Any device that can access the public Internet 1730 over TCP/IP (a standard network communications protocol) is able to request information from the profile database via intelligent HTTP requests. Consumers will be able to gain access to services from devices such as their televisions 1740, mobile phones, Smart Cards, gas meters, water meters, kitchen appliances, security systems, desktop computers, laptops, pocket organizers, PDAs, and their vehicles, among others. Likewise, merchants 1750 will be able to access those profiles (given permission from the consumer who owns each profile), and will be able to offer customized, personalized services to consumers because of this.

Detailed Description Text (370):
Systems Management Server (SMS) is a Microsoft tool that can be used to distribute software/content, take software audits, perform fault diagnosis and take remote control. SMS is supplemented by a component developed for the architecture, namely the File Transfer Utility.

Detailed Description Text (374):
SMS is used for medium sized software distribution (both code and content) and for fault diagnosis of the remote kiosks. There are a large number of features that make SMS a flexible and useful support facility. Fault monitoring will provide the means to view the real-time status of each kiosk and associated peripherals. When a problem occurs at a particular kiosk (such as running out of paper), the kiosk will be brought to the attention of a operations representative. It will be possible to observe the kiosk status to verify the resolution of the problem.

Detailed Description Text (376):
The SMS is responsible for software distribution, hardware fault management and diagnosis, and client remote re-boots. The SMS also provides a user interface to selectively view the status of all kiosks in the network.

Current US Cross Reference Classification (1):
705/2

L8: Entry 6 of 9 File: USPT Jun 4, 2002

US-PAT-NO: 6401085
DOCUMENT-IDENTIFIER: US 6401085 B1

TITLE: Mobile communication and computing system and method

DATE-ISSUED: June 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gershman; Anatole Vitaly	Chicago	IL		
Swaminathan; Kishore Sundaram	Downers Grove	IL		
Meyers; James L.	Chicago	IL		
Fano; Andrew Ernest	Evanston	IL		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Accenture LLP	Palo Alto	CA			02

APPL-NO: 09/ 263969 [PALM]
DATE FILED: March 5, 1999

PARENT-CASE:
CROSS-REFERENCE TO RELATED APPLICATION The following applications are related to the present application in that they were filed on the same date while claiming different inventions, are assigned to the same assignee and, except for U.S. Pat. No. 6,199,099, are co-pending applications. U.S. Pat. No. 6,199,099 B1, Issued on Mar. 6, 2001 titled "System, Method and Article of Manufacture For a Mobile Communication Network Utilizing A Distributed Communication Network" (Ser. No. 09/263,143 filed Mar. 5, 1999); Ser. No. 091263,927, filed on Mar. 5, 1999, titled "Mobile Communication System and Method For A Shopper Agent", pending; Ser. No. 09/263,251, filed on Mar. 5, 1999, titled "A System for Utilizing a Transaction Interface In A Mobile Communication Network", pending; Ser. No. 09/263,926, filed on Mar. 5, 1999, titled "System, Method and Article of Manufacture For Advanced Mobile Health Care Processing", pending; Ser. No. 09/263,252, filed on Mar. 5, 1999, titled "System, Method and Article of Manufacture For Mobile Communication Utilizing an Interface Support Framework", pending ; Ser. No. 09/263,920, filed on Mar. 5, 1999, titled "Dynamic Configuration System and Method for a Mobile Communication Network", pending.

INT-CL: [07] G06 F 17/30

US-CL-ISSUED: 707/4; 707/3, 707/10, 705/2, 709/223, 709/226
US-CL-CURRENT: 707/4; 705/2, 707/10, 707/3, 709/223, 709/226

FIELD-OF-SEARCH: 705/2, 705/14, 705/26, 701/201, 707/5, 707/3, 707/10, 707/4, 707/102, 707/104.1, 709/223, 709/226

PRIOR-ART-DISCLOSED:

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Search Selected | Search ALL | Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5279882	January 1994	Daude et al.	428/192
☐	5519608	May 1996	Kupiec	704/9
☐	5606602	February 1997	Johnson et al.	379/115
☐	5640193	June 1997	Wellner	348/7
☐	5673322	September 1997	Pepe et al.	705/52
☐	5732074	March 1998	Spaur et al.	370/313
☐	5854624	December 1998	Grant	345/169
☐	5897622	April 1999	Blinn et al.	705/26
☐	5933811	August 1999	Angles et al.	705/14
☐	5948040	September 1999	DeLorme et al.	701/201
☐	5997476	December 1999	Brown	600/300
☐	6101478	August 2000	Brown	705/2
☐	6134548	October 2000	Gottsman et al.	707/5

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0890907	January 1999	EP	
WO 97/17815	May 1997	WO	
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WO 97/45814	December 1997	WO	
WO 98/03923	January 1998	WO	
WO 98/06055	February 1998	WO	
WO 98/10541	March 1998	WO	
WO 98/11744	March 1998	WO	
WO 98/12833	March 1998	WO	
WO 98/24036	June 1998	WO	
WO 98/24050	June 1998	WO	
WO 98/39909	September 1998	WO	
WO 98/40823	September 1998	WO	
WO 98/47295	October 1998	WO	
WO 98/49813	November 1998	WO	
WO 98/52371	November 1998	WO	
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WO 98/58476	December 1998	WO	

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Toh Han Shih; Online life-line; Wired for Business; Singapore Business Times; Dec. 1998.
Chris Bradley; Remote and Mobile Computing with TCP/IP; Enterprise Systems Journal; Jan. 1998.
Enhanced Services: Telecom customers will soom have one-stop, easy-to-use access to their services portfolio form anywhere, at any time, and in any way; EDGE, on & about AT&T; May 1997.
Nokia, Ericsson, Unwired Planet and Motorola unite to create an open common protocol for interactive wireless applications; Jun. 26, 1997.
Unisource in GSM trial of mobile electronic banking and shopping; Mobile Communications: Mar. 20, 1997.
Dynamic Mobile Data Announces Mobile Server Wireless Solution For Enterprise and Internet Access; Mar. 1999.
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Bob Emmerson; The Mobile Intranet: The next generation of GSM services will offer faster data rates and smarter messaging; May 1998; BYTE Magazine.
Timo Alanko, Markku Kojo, Mika Liljeberg; Mobile access to the Internet; a mediator-based solution; Internet Research; Electronics Networking Applications and Policy vol. 9, No. 1, pp. 58-65, 1999.
Andrezej Duda, Stephane Perret; A Network Programming Model for Mobile Applications and Information Access; Proceedings JENC7, No date.
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ART-UNIT: 2777

PRIMARY-EXAMINER: Choules; Jack

ASSISTANT-EXAMINER: Lewis; Cheryl

ATTY-AGENT-FIRM: Morrison & Foerster LLP

ABSTRACT:

A system is disclosed that facilitates web-based information retrieval and display system. A wireless phone or similar hand-held wireless device with Internet Protocol capability is combined with other peripherals to provide a portable portal into the Internet. The wireless device prompts a user to input information of interest to the user. This information is transmitted a query to a service routine (running on a Web server). The service routine then queries the Web to find price, shipping and availability information from various Web suppliers. This information is then available for use by application programs such as wordprocessors, e-mail, accounting, graphical editors and other user tools. The system provides an innovative collaborative interface to many popular user applications that are useful in a mobile environment.

6 Claims, 30 Drawing figures

L8: Entry 8 of 9 File: USPT Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5845255 A
TITLE: Prescription management system

Application Filing Date (1):
19971002

Detailed Description Text (69):
Source data for a typical patient record may be distributed across multiple, geographically dispersed, electronically incompatible, remote databases maintained for example by drug benefit companies, insurers, laboratories, medical facilities, diagnostic testing facilities and health maintenance organizations, including government agencies (MEDICAID, MEDICARE, etc.) and health care providers themselves, that have serviced the patient in the past. Known automated patient record systems either ignore such remote data and work only with data created at the maintaining facility or vertically integrated health care organization, or create and maintain duplicates of the remote data.

Detailed Description Text (114):
FIG. 18 shows in flowchart form the sequence of Condition field 64 may be accessed. The field may be accessed from the System Scripts window 18 to enter a patient's specific condition. After the Condition field 64 is accessed, the condition may be entered by the user through the keyboard. Alternatively a condition could be chosen from the remote database 210. The remote database 210 would also assist the user by accessing a patient history to give insight into the possible diagnosis. Once the diagnosis in entered, the information is stored in the remote database 210 for future reference.

Detailed Description Text (121):
FIG. 17 shows in flowchart form, the sequence of user access to patient histories, more specifically patient allergies. First the user will activate the systems to display the System Scripts window 18. Then, the user will activate the Allergies button 52 which will display a screen with information on allergies. Then the appropriate information regarding the patient's specific allergies may be accessed (via the Rx History button 54) from the remote database 210 to show the patients's history of allergies including allergies to pharmaceuticals as well as allergies non-pharmaceuticals. The remote database 210 also has general information on allergies so that the user may add any newly diagnosed allergies of the patient to the remote database 210.

Detailed Description Text (132):
Continuous post-market-introduction monitoring of a drug in relation to the treatment of conditions is possible, and an end-to-end solution to the problem of managing unanticipated problems arising with new drugs can be provided: the system provides a vehicle for collecting relevant data; parameters for evaluating and a means for analysis of that data; and a means for disseminating alerts and advisories regarding newly discovered problems. The same vehicle is used for all three steps.

Detailed Description Text (136):
The historical drug-prescribed and condition-treated records obtainable by using

the invention can provide a basis for condition-based treatment guidelines developed by drug formularies. This novel data provides a new vehicle for outcome research for managed care, leading to new approaches to cost-effective prescription treatments.

Current US Original Classification (1):
705/3

Previous Doc Next Doc Go to Doc#

L8: Entry 9 of 9 File: USPT Apr 7, 1998

US-PAT-NO: 5737539
DOCUMENT-IDENTIFIER: US 5737539 A

TITLE: Prescription creation system

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Edelson; Jonathan	Scarsdale	NY		
Mayaud; Christian	New Canaan	CT		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Advanced Health Med-E-Systems Corp.	Tarrytown	NY			02

APPL-NO: 08/ 330939 [PALM]
DATE FILED: October 28, 1994

INT-CL: [06] G06 F 159/00, G06 F 17/60

US-CL-ISSUED: 395/203; 395/202
US-CL-CURRENT: 705/3; 705/2

FIELD-OF-SEARCH: 364/41M, 364/41R, 364/406, 364/408, 395/203, 395/202, 395/228, 395/229

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4674652	June 1987	Aten et al.	221/3
☐	4695954	September 1987	Rose et al.	364/413.01
☐	4766542	August 1988	Pilarczyk	
☐	4847764	July 1989	Halvorson	364/413.02
☐	4860899	August 1989	McKee	206/534
☐	4991877	February 1991	Lieberman	283/36

☐	5065315	November 1991	Garcia	
☐	5072383	December 1991	Brimm et al.	
☐	5084828	January 1992	Kaufman et al.	
☐	5208762	May 1993	Charhut et al.	364/478
☐	5292029	March 1994	Pearson	221/2
☐	5347453	September 1994	Maestre	364/413.01
☐	5347477	September 1994	Lee	
☐	5390238	February 1995	Kirk et al.	379/93
☐	5502944	April 1996	Kraft et al.	53/55
☐	5528021	June 1996	Lassus et al.	235/380

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Abstracts (A-N) and papers (AA-SS) in 1994 Spring Congress Final Program and Abstract Book (American Medical Informatics Association, Bethsda, MD, Spring Congress May 4-7, 1994, San Francisco); as follows:.
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"Wireless Clinical Computing: Uses and Spinoffs" by Larry Frisch, M.D.
"Health Data: Disclosure, Protection, and Privacy" by Molla S. Donaldson, M.S. et al., p. 39.
"Electronic Signatures: A Dissuasion Strategy to Protect Medical Records Based on Medical Liabilility" by F.A. Allaert and L. Dusserre, p. 40.
"The Trade Off Between Accessibility of Information, The Truthfulness of Medical Records, Etc." by Dr. Ian Purves, et al., p. 41.
"Demands of Academic Physician on Future Medical Information Systems" by William M. Detmer et al., p. 55.
"User Requirements for the Computerized Patient Record: Physician Opinions" by Wally R. Smith, M.D. et al., p. 56.
"Patient Use of H.I.S. E-Mail System" by Steve Edison, MSc et al., p. 57.
"Enhancing HMO Prescription-Writing Via Pen Computing" by Paula Mikrut, p. 74.
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"Identifying Medical Concepts in Text: Use of a Very Long Barrier Word List" by Stuart J. Nelson et al., p. 87.
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"The Universal Patient Identifier: A discussion and Proposal" by Paul C. Carpenter, M.D. et al., pp. 49-53.
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"Physician-Directed Software Design: The Role of Utilizatin Statistics and User Input in Enhancing HELP Results Review Capabilities" by Patricia A. Michael, PhD, pp. 107-111.
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"Unifying Heterogeneous Distributed Clinical Data in a Relational Database" by Keith A. Marrs, et al., pp. 644-648.
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"The Development of a Data Security Model for the Collaborative Social and Medical Services System" by Ross Dargahi et al., pp. 349-353.
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"Ez-Rx System"; Dialog File 751, Acc. No. 00268373, by Signature Software Systems, Inc., released Feb. 1982 [DATAPRO].

ART-UNIT: 241

PRIMARY-EXAMINER: Hayes; Gail O.

ASSISTANT-EXAMINER: Thomas; Joseph

ATTY-AGENT-FIRM: Handal & Morofsky

ABSTRACT:

An electronic prescription creation system for use by professional prescribers at the point of care has a prescription division subsystem permitting creation of a single prescription to be automatically divided into two components for fulfilment of one portion quickly and locally at higher cost and of another portion by remote mail order taking more time but providing a cost saving for a major part of the prescription. The prescription creation system has an ability to access remote source databases for system presentation to the prescriber of relevant, authorized

and current drug, drug formulary and patient history information, with dynamic creation of a transient virtual patient record, the information being presented to the prescriber before completion of the prescription, permitting enhancement of the quality of prescribing decisions.

5 Claims, 16 Drawing figures

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L8: Entry 1 of 9 File: USPT Oct 12, 2004

US-PAT-NO: 6804656
DOCUMENT-IDENTIFIER: US 6804656 B1

TITLE: System and method for providing continuous, expert network critical care services from a remote location(s)

DATE-ISSUED: October 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rosenfeld; Brian A.	Baltimore	MD		
Breslow; Michael	Lutherville	MD		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
VISICU, Inc.	Baltimore	MD			02

APPL-NO: 09/ 443072 [PALM]
DATE FILED: November 18, 1999

PARENT-CASE:
RELATIONSHIP TO OTHER APPLICATIONS This application claims the benefit of U.S. Provisional Application Serial No. 60/141,520, filed Jun. 23, 1999, which is hereby incorporated by reference for all purposes.

INT-CL: [07] G06 F 17/60, A61 D 1/267

US-CL-ISSUED: 705/3; 705/2, 600/300
US-CL-CURRENT: 705/3; 600/300, 705/2

FIELD-OF-SEARCH: 705/2, 705/3, 600/300

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
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☐	4838275	June 1989	Lee	600/483
☐	5574828	November 1996	Hayward et al.	395/50
☐	5619991	April 1997	Sloane	128/630

☐	5724580	March 1998	Levin et al.	707/104.1
☐	5822544	October 1998	Chaco et al.	395/202
☐	6024699	February 2000	Surwit et al.	600/300
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FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
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ART-UNIT: 3627

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ABSTRACT:

A system and method for providing continuous expert network critical care services from a remote location. A plurality of intensive care units (ICU's) with associated patient monitoring instrumentation is connected over a network to a command center which is manned by intensivists 24 hours a day, 7 days a week. The intensivists are prompted to provide critical care by a standardized series of guideline algorithms for treating a variety of critical care conditions. Intensivists monitor the progress of individual patients at remote intensive care units. A smart alarm system provides alarms to the intensivists to alert the intensivists to potential patient problems so that intervention can occur in a timely fashion. A data storage/data warehouse function analyzes individual patient information from a plurality of command centers and provides updated algorithms and critical care support to the command centers.

26 Claims, 64 Drawing figures

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L8: Entry 1 of 9 File: USPT Oct 12, 2004

DOCUMENT-IDENTIFIER: US 6804656 B1
TITLE: System and method for providing continuous, expert network critical care services from a remote location(s)

Application Filing Date (1):
19991118

Detailed Description Text (32):
Communication: Contains all of the various types of communication vehicles used to contact an individual physician or physician extender.

Current US Original Classification (1):
705/3

Current US Cross Reference Classification (2):
705/2

CLAIMS:

18. The method for providing expert critical care simultaneously to a plurality of geographically dispersed ICUs from a remote location claim of 17, wherein the method further comprises consulting a decision support algorithm selected from the group consisting of Acalculous Cholecystitis, Acute Pancreatitis, Acute Renal Failure Diagnosis, Acute Renal Failure-Management & Treatment, Adrenal Insufficiency, Agitation and Anxiety, Depression & Withdrawal, Aminoglycoside Dosing and Therapeutic Monitoring, an Amphotericin-B Treatment Guidelines, Analgesia, Antibiotic Classification & Costs, Antibiograms, Antibiotic associated Colitis, ARDS: Hemodynamic Management, ARDS: Steroid Use, ARDS: Ventilator Strategies, Asthma, Bleeding Patient, Bloodstream Infections, Blunt Cardiac Injury, Bradyarrhythmias, Brain Death, Bronchodilator Use in Ventilator Patients, Bronchoscopy & Thoracentesis Guidelines, Candiduria, Cardiogenic Shock, CardioPulmonary Resuscitation Guideline, Catheter Related Septicemia, a Catheter Replacement Strategies, Cervical Cord Injury, Congestive Heart Failure, COPD Exacerbation & Treatment, CXR (Indications), Dealing with Difficult patients and families, Diabetic Ketoacidosis, Dialysis, Diuretic Use, Drug Changes with Renal Dysfunction, Emergency Cardiac Pacing, Endocarditis Diagnosis and Treatment, Endocarditis Prophylaxis, End of Life Decisions, Endotracheal Tubes & Tracheotomy, Ethical Guidelines, Febrile Neutropenia, FUO, Fluid Resuscitation, Guillain-Barre Syndrome, Heparin, Heparin-Induced Thrombocytopenia, Hepatic Encephalopathy, Hepatic Failure, HIV +Patient Infections, Hypercalcemia Diagnosis and Treatment, Hypercalcemia Insulin Treatment, Hyperkalemia: Etiology & Treatment, Hypernatremia: Etiology & Treatment, Hypertensive Crisis, Hypokalemia: Etiology & Treatment, Hyponatremia: Etiology & Treatment, Hypothermia, Identification of Cervical Cord Injury, Implantable Cardio-defibrillator, Intra-Aortic Balloon Device, Intracerebral Hemorrhage, Latex Allergy, Magnesium Administration, Management of Hypotension, Inotropes, Management of Patients with Ascites, Empiric Antibiotics for Meningitis, Myasthenia Gravis, Myocardial Infarction, Myocardial Infarction with left bundle branch block, Necrotizing Soft Tissue Infections, Neuromuscular Blockers, Neuromuscular Complications of Critical Illness, Non-Infectious Causes of Fever, Non-Traumatic Coma, Noninvasive Modes of Ventilation, Nutritional

Management, Obstetrical Complications, Oliguria, Open Fractures, Ophthalmic Infections, Organ Procurement Guidelines, PA Catheter Guideline and Troubleshooting, Pancreatitis, Penetrating Abdominal Injury, Penetrating Chest Injury, Penicillin Allergy, Permanent Pacemaker and Indications, Pneumonia Community Acquired, Pneumonia Hospital Acquired, Post-Op Bleeding, Post-Op Hypertension, Post-Op Management of Abdominal Surgery, Post-Op Management of Carotid Surgery, Post-Op Management of Open Heart Surgery, Post-Op Management of Thoracotomy Surgery, Post-Op Myocardial Ischemia, Cardiac Arrhythmias after Non-Cardiac Surgery, Post-Op Power Weaning, Pressure Ulcers, Pulmonary Embolism Diagnosis, Pulmonary Embolism Treatment, Respiratory Isolation, Sedation, Seizure, Status Epilepticus, Stroke, Sub-Arachnoid Hemorrhage, Supra-Ventricular Tachyarrythmia, Supra-Ventricular Tachycardia, Wide Complex QRS Tachycardia, Therapeutic Drug Monitoring, Thrombocytopenia, Thrombolytic Therapy, Transfusion Guidelines, Traumatic Brain Injury, Assessment of Sedation, Sedation, Septic Shock, Bolus Sliding Scale Midazolam, Short Term Sedation Process, Sinusitis, SIRS, Spinal Cord Injury, Steroid Replacement Strategy, Thyroid Disease, Transplant Infection Prophylaxis, Transplant Related Infections, Treatment of Airway Obstruction, Unknown Poisoning, Unstable Angina, Upper GI Bleeding Stress Prophylaxis, Vancomycin, Upper GI Bleeding Non-Variceal, Upper GI Bleeding Variceal, Use of Hematopoiectic Growth Factors, Ventilator Weaning, Ventilator Weaning Protocol, Venous Thrombosis Diagnosis and Treatment, Venous Thromboembolism Prophylaxis, Ventricular Arrhythmia, Warfarin, Warfarin Dosing, and Wound Healing Strategies.

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L8: Entry 5 of 9 File: USPT Jun 3, 2003

DOCUMENT-IDENTIFIER: US 6574603 B1
TITLE: In-vehicle ordering

Abstract Text (1):
The present invention relates to an in-vehicle interface allowing occupants of the vehicle to place orders from within the vehicle for items provided by a quick-serve restaurant before or after the vehicle reaches a typical order entry position associated with the quick-serve restaurant. Occupants in the vehicle are provided a menu on a display of an in-vehicle interface. The occupants may select any number of desired items to form an occupant order. The occupant order is stored and/or transmitted directly or indirectly to the quick-serve restaurant for processing. Financial information may be sent along with the customer order to effect payment for the occupant order. Preferably, the occupant order is transmitted directly to communication electronics in or associated with a fuel dispenser in an environment associated with a quick-serve restaurant. The dispenser electronics will forward the occupant order to the quick-serve restaurant for processing. Alternatively, the occupant order may be transmitted to the quick-serve restaurant via satellite or ground-based communication systems, which in effect relay information transmitted from the vehicle to communication electronics associated with the quick-serve restaurant.

Application Filing Date (1):
19980721

Brief Summary Text (2):
The present invention relates generally to remote ordering systems and, more particularly, to remote ordering systems allowing vehicle occupants to place orders from within the vehicle and monitoring vehicle movement within and throughout a fueling and/or restaurant environment.

Brief Summary Text (4):
Remote transaction systems have evolved wherein the fuel dispenser is adapted to communicate with various types of remote communication devices, such as transponders, to provide various types of identification and information to the fuel dispenser automatically. These systems are known to facilitate communications of various types of information between a vehicle and other stations, such as fuel dispensers, toll booths, and parking facilities. The more sophisticated systems provide a transponder on the vehicle configured to communicate with a fuel dispenser wherein identification and financial information is sent from the vehicle to the fuel dispenser to effect payment for fueling.

Brief Summary Text (5):
Systems also exist which allow a customer to order food from a menu at the fuel dispenser interface, however, a customer paying for gas using the transponder must still pay for food at the dispenser or at the quick-serve restaurant from which the food is being ordered. Thus, a first drawback is that the customer is required to pay for fuel using the transponder and pay for any items ordered from the quick-serve restaurant by some other means, preferably a debit or credit card. Another drawback is that other occupants in the vehicle cannot see or interact with the dispenser interface to determine and select the items desired for the order. For

example, if four people are in the vehicle, only the person dispensing fuel is privy to the items available for order and their respective prices. A further disadvantage of placing food orders at a fuel dispenser is that such ordering increases the amount of time a vehicle is at a particular fueling position, which may result in increased congestion and lost profits due to potential customers selecting an apparently less congested fueling environment. Thus, merging the relatively new transponder transactions with ordering food at a dispenser may result in a decrease in fueling and ordering efficiencies - a result in stark contrast to the goals of each of these systems.

Brief Summary Text (7):
The present invention provides a solution to the disadvantages associated with the latest trends in quick-serve restaurant environments and, in particular, quick-serve restaurant environments associated with fuel dispensing. The present invention relates to an in-vehicle controller (IVC) having an interface allowing occupants of the vehicle to place orders from within the vehicle for items provided by a quick-serve restaurant before or after the vehicle reaches a typical order entry position associated with the quick-serve restaurant. Occupants in the vehicle are provided a menu on a display of an in-vehicle interface. The occupants may select any number of desired items to form an occupant order. The occupant order is stored and/or transmitted directly or indirectly to the quick-serve restaurant for processing. Financial information may be sent along with the customer order to effect payment for the occupant order. Preferably, the occupant order is transmitted directly to communication electronics in or associated with a fuel dispenser in an environment associated with a quick-serve restaurant. The dispenser electronics will forward the occupant order to the quick-serve restaurant for processing. Alternatively, the occupant order may be transmitted to the quick-serve restaurant via satellite or ground-based communication systems, which in effect relay information transmitted from the vehicle to communication electronics associated with the quickserve restaurant. In other words, the invention relates to the transmission of an occupant order, which was entered from within a vehicle, to the quick-serve restaurant for processing.

Brief Summary Text (8):
The occupant order may be substantially immediately transmitted for processing, or the occupant order may be held for any amount of time before being transmitted. For example, the occupants of the vehicle may enter their order prior to arriving at a fueling and quick-serve restaurant environment wherein the order is actually transmitted to the fuel dispenser upon arrival at a particular fueling position. At that point, the order is passed to the quick-serve restaurant for processing while the occupant fuels the vehicle.

Brief Summary Text (9):
Another aspect of the present invention may relate to monitoring a vehicle's position throughout a fueling environment in order to associate orders placed from within the vehicle with a particular customer or vehicle at an appropriate receiving point. The receiving point may be a pick-up window at a quick-serve restaurant drive-thru, a car wash terminal, or any other point adapted to receive products or services ordered from the vehicle. In addition to associating the appropriate customer with the order being picked up, operators of a quick-serve restaurant (QSR) can monitor or detect the position of the vehicle in the drive-thru lane or elsewhere in the fueling environment as well as determine when to start order preparation.

Brief Summary Text (10):
The customer may choose to pay for the order automatically as described above, along with the fuel at the dispenser, at the order pick-up position, or at one of the in-store registers associated with the QSR or the convenience store. Assuming that the transaction was paid for automatically or at the dispenser along with the fuel, the customer may enter the vehicle and proceed to drive around the fuel

station store along a drive-thru lane and pass a customer position monitor. As the customer approaches the customer position monitor, a drive-thru position interrogator may be used to receive a signal from the vehicle indicating the customer is at a known position in the drive-thru lane. At this point, a control system will alert the food preparation area to prepare the order and indicate to an order pick-up interface and controller the position of the vehicle in the drive-thru lane. Once the customer reaches the order pick-up window, the order pick-up interrogator will determine the presence of the customer vehicle and associate the occupant order accordingly so that the drive-thru window operator can deliver the freshly prepared order to the correct customer.

Brief Summary Text (11):
Accordingly, one aspect of the present invention may provide a remote ordering system configured to communicate with an in-vehicle order interface. The ordering system includes communication electronics adapted to ultimately communicate with vehicle communication electronics associated with an in-vehicle order interface and an order processing terminal at a quick-serve restaurant adapted to display an occupant order to a food processor. The system will also include a control system associated with the communication electronics and the occupant order processing terminal. The control system is configured to receive the occupant order via the communication electronics, send the occupant order to the order processing terminal for processing, receive account information, and effect payment for the order based on the occupant account information.

Brief Summary Text (12):
The in-vehicle order interface may take on many configurations, all of which will include a display and input device operating in conjunction with a controller to provide a menu to an occupant and recognize items selected by the occupant through the input device. The in-vehicle interface will also be associated with communication electronics configured to transmit the occupant order and, preferably, account information, for ultimate receipt at the ordering system. Such communications may be direct, via satellite or via ground relay, such as a cellular communication system. As noted, the preferred embodiment is found in a fueling environment associated with a quick-serve restaurant wherein communications are sent to dispenser communication electronics or communication electronics associated with the dispenser or dispensing area. The order received at the dispenser or in the dispensing area is transmitted to the quick-serve restaurant for processing.

Brief Summary Text (13):
Another aspect of the present invention may provide a multistage ordering system. The system may include first remote communications electronics adapted to communicate with an in-vehicle occupant order system. An order receipt position apart from the fuel dispenser is provided and includes second remote communications electronics adapted to communicate with the in-vehicle occupant order system, a receipt position output indicating the vehicle associated with the order is at the order receipt location, and an intermediate location output indicating the vehicle is locating position. An intermediate locating position located along the path of travel between the fuel dispenser and the order receipt position is also provided. The intermediate locating position has a third remote communications electronics adapted to communicate with the in-vehicle occupant order system. The control system is associated with each of the communications electronics.

Brief Summary Text (14):
The control system is preferably adapted to ultimately communicate with the in-vehicle occupant order system through the first communications electronics when the in-vehicle occupant order system is proximate a fuel dispenser, associate the occupant order with the vehicle or occupant, and communicate with the in-vehicle occupant order system through the third remote communications electronics when the remote communications unit is proximate the intermediate locating position. When the vehicle is proximate the intermediate locating position, the control system

provides an intermediate location output in order to determine the location of the customer between the dispenser and order receipt location. The control system will again communicate with the in-vehicle occupant order system at the order receipt location when the customer arrives to pick up the order. The control system will identify the order at the receipt location for the particular customer who placed the order at the order entry interface of the fuel dispenser.

Brief Summary Text (15):
Typically, the order receipt location is associated with a quick-serve restaurant wherein the customer may pick up the food ordered from within the vehicle. The order receipt location is further associated with an order preparation location having an order preparation output. The control system may also be associated with the order preparation output and adapted to control the order preparation output to indicate the customer associated with the order is at the intermediate location wherein processing the order for the customer is effected when the customer is determined to be at the intermediate location.

Brief Summary Text (16):
The present invention solves the unique problems associated with keeping track of orders from a QSR in a fueling environment. In such an environment, orders for pick up at the drive-thru window, or within the store for that matter, may be placed in a different sequence than that in which they are actually picked up. The reason for the possible discrepancy in order placement and order pick-up arises because the orders can be placed at several locations, including from within the vehicle, at one of the many fuel dispensers interfaces, and the traditional order entry interface of QSR. In particular, those customers placing orders at the dispenser will most likely intermingle in the drive-thru line with those placing orders at the order entry interface. The present invention uses transponders to appropriately associate orders placed at different locations with the appropriate customer at a common pick-up location.

Drawing Description Text (3):
FIG. 2A depicts a vehicle having a vehicle-mounted controller constructed according to the present invention.

Drawing Description Text (7):
FIG. 4A is a schematic of an in-vehicle controller and associated peripheral devices on a vehicle constructed according to the present invention.

Drawing Description Text (8):
FIG. 4B is a schematic of an in-vehicle controller and associated peripheral devices constructed according to the present invention.

Drawing Description Text (9):
FIG. 4C is a more detailed block schematic of the in-vehicle controller constructed according to the present invention.

Detailed Description Text (2):
In the following description, like reference characters designate like or corresponding parts throughout the several figures. It should be understood that the illustrations are for the purpose of describing preferred embodiments of the invention and are not intended to limit the invention thereto. Given the extensive nature of the present application, an overview of the necessary hardware for the various areas in the fueling and restaurant environment will be discussed followed by a description of the various functional aspects of the system and how a vehicle and customer will interact with the system during various types of transactions. Notably, the various aspects discussed herein may constitute subject matter covered by the accompanying claims alone or in combination.

Detailed Description Text (3):

As best seen in FIG. 1, a fueling and retail environment, generally designated 10, is shown constructed according to the present invention. The fueling and retail environment provides customers 12 the opportunity to purchase fuel for their vehicles 14 as well as other goods and services, such as fast food and car washes. The fueling and retail environment 10 may include one or more of a forecourt 16, where the fuel dispensers 18 are located, a convenience or fuel station store 20, one or more quick-serve restaurants (QSR) 22, a car wash 24, and a backroom 26. The backroom 26 is generally the central control area for integrating or coordinating control of the dispensers 18, convenience store 20, QSR 22, and car wash 24.

Detailed Description Text (6):
The QSR 22 may also include a food preparation area 40, a food preparation interface 42 for providing order instruction to QSR food preparers, a drive-thru order placement interface 44 for placing drive-thru orders in a conventional manner, and a customer position monitor 46 for determining the location or position of a customer in line to pick up a QSR order at the drive-thru window 36. Notably, the drive-thru and car wash lanes depicted in FIG. I are designed to control the flow of traffic through the respective lanes and aid to ensure vehicles, and their respective transponders, pass by the various interrogation points in the fueling environment as desired.

Detailed Description Text (10):
The present invention relates generally to providing remote communications between the customer 12 in vehicle 14 and various parts of the fueling environment briefly described above. In short, many areas within the fueling environment 10 will be equipped with communication electronics capable of providing uni- or bi-directional communications with the customer in vehicle 14 via a remote communications device associated with an occupant interface and controller. The communication electronics will typically include a transmitter for transmitting signals to the remote communications device and a receiver for receiving signals emanating from the remote communications device. The communications electronics of the vehicle or IVC may also include a receiver and transmitter. The transmitter and receiver of the remote communications device may separately receive and separately transmit signals in cooperation with an associated control system or may be configured so that the transmitter actually operates on and modifies a signal received from the communication electronics in the fueling environment 10. The latter embodiment encompasses traditional transponder-type communication systems wherein the remote communications device may be either passive or active.

Detailed Description Text (13):
With the above in mind, the fueling environment 10 may include many interrogators of varying capability. These interrogators may include: dispenser interrogators 52, a store transaction interrogator 54, a QSR transaction interrogator 56, a drive-thru pick-up interrogator 58, a drive-thru order interrogator 60, and a drive-thru position interrogator 62. As shown in FIGS. 2A, 2B and 2C, the dispenser interrogator 52 is generally adapted to communicate with vehicle-mounted IVC transponders 64 and/or personal transponders 66. The personal transponder 66 may be mounted on a key fob 68, a wallet card 70, or any other device typically carried by the customer 12, as shown in FIGS. 2B and 2C. FIG. 2A depicts a vehicle 14 having a vehicle-mounted transponder 64.

Detailed Description Text (14):
As best seen in FIG. 3, a fuel dispenser 18 is shown constructed according to and as part of the present invention. The dispenser provides a fuel delivery path from an underground storage tank (not shown) to a vehicle 14, (shown in FIGS. 1 and 2A). The delivery path includes a fuel delivery line 72 having a fuel metering device 74. The fuel delivery line 72 communicates with a fuel delivery hose 76 outside of the dispenser 18 and a delivery nozzle 78. The nozzle 78 provides manual control of fuel delivery to the vehicle 14.

Detailed Description Text (20):
When looking for new vehicle tags, the Texas Instruments system (TIRIS) repetitively transmits a poll signal through its LF (Low Frequency: 134.2-kHz) forward link antenna, an oblong coil of wire (about 6 or 7 turns) positioned above the fueling area much like a basketball goal. This antenna creates a well-defined zone in which this forward link signal can be detected by a tag within a 7-foot radius of the fueling area.

Detailed Description Text (25):
Referring now to FIG. 4A, a vehicle is shown equipped with an intelligent vehicle controller (IVC) 1100 providing interactive multimedia access for the driver and passengers of the vehicle. The intelligent vehicle controller 1100 is designed to provide vehicle occupants bidirectional access via various communication systems and networks to systems and people apart from the vehicle. The primary purpose of the IVC is to provide an interactive communication medium allowing customers to interface remote systems to 1) display menu information, 2) receive advertising, merchandising and possibly menu indicia and, in return, 3) order and provide payment for selected items from within the vehicle. The IVC may also facilitate monitoring, reconfiguration and transfer of various types of vehicle data, such as operational, diagnostic or emission information.

Detailed Description Text (26):
The IVC 1100 may be permanently integrated in the vehicle interior with vehicle's electronic system or be configured to removably interface with the vehicle and remain portable between vehicles. In a portable configuration, an interface or docking station 102 is preferable to couple the IVC 1100 to any necessary communication electronics and any desired vehicle systems.

Detailed Description Text (27):
The vehicle shown in FIG. 4A is equipped with an IVC 1100 coupled to a vehicle mounted docking interface 1102. The docking interface 1102 preferably is coupled via a bus or wiring network 1104 to various vehicle systems and/or sensors 1106-1112. The IVC 1100 either directly or through the docking interface 1102 and/or the network 1104 will interface with any necessary communication electronics 1116 to provide communications to and from the vehicle. The necessary transmitter and receiver may be placed in the IVC 1100, the docking interface 1102 or a separate module coupled to the docking interface 1102 or the IVC 1100. Any necessary antennas are preferably placed near the vehicle's exterior to enable proper communications to and from the proper external system.

Detailed Description Text (28):
The IVC 1100 may also directly or indirectly cooperate with the vehicle's fueling system 1114, including any ORVR equipment as well as a central vehicle control system 1118. In embodiments where the IVC is integrated with the vehicle, the control and communication aspects of the vehicle and the IVC may be integrated into one centralized control system capable of operating a multimedia interface associated with the IVC, any communication electronics, and the remaining vehicle systems, sensors and functions.

Detailed Description Text (29):
As shown in FIG. 4B, the IVC may interface or actually be a part of a vehicle control system 1118. Thus, the IVC may have separate processing capability or share processing capability with the central vehicle control system, depending on the amount of integration and the configuration of the IVC and vehicle. Although the IVC 1100 and the vehicle control system 1118 may be integrated, the preferred embodiment provides an IVC 1100 capable of operating substantially independently of, yet cooperating with, the vehicle control system 1118.

Detailed Description Text (30):
The IVC 1100 may include the docking interface 1102 for coupling to the vehicle

control system 1118. The IVC may also be associated with a card reader, SmartCard receiver, or biometric reader 1124, a user input means, such as a keypad, mouse or touch screen electronics 1120, a video display 1122, a card reader 1124, and a printer 1126. These features cooperate to provide a basic multimedia interface and means for paying for items ordered through the IVC 1100. Additionally, the IVC may include or be associated with an audio system 1128, microphone 1130 and speaker 1132 for providing a bi-directional audio/video intercom with a corresponding remote system, such as a quick-serve restaurant.

Detailed Description Text (31):
A camera 1134 may be provided to receive images of the vehicle's occupants to enhance an audio intercom system with one or two direction video. With such a system, an order entry operator at a quick-serve restaurant and the vehicle occupant would be able to see and hear each other during order placement. For information providing like audio and video intercom interface at a dispenser, attention is drawn to U.S. application Ser. No. 08/659,304 filed Jun. 6, 1996, entitled Fuel Dispenser/Operator Intercom System and the continuation application filed Feb. 10, 1998, the disclosure of which is incorporated herein by reference.

Detailed Description Text (32):
A biometric reader 1150 may also be coupled to the IVC to provide additional authorization or identification means for vehicle occupants. The biometric reader 1150 may read the occupant's fingerprints, voice print, retinal scan or other biometric indicia to provide a substantially secure authorization. Such authorization or identification is preferably used in cooperation with financial information stored in the IVC or retrieved via the card reader 1124. Biometric templates corresponding to the authorized card holder or occupant may be stored on a card read by the card reader, in the IVC remote system or on a network for comparison with the actual biometric indicia provided by the biometric reader 1150.

Detailed Description Text (33):
In order to communicate with systems apart from the vehicle, one or more remote communication systems are required to facilitate bi-directional image and/or data transfer between a vehicle and a desired system directly or through any number of communication networks as shown in FIG. 4D. The IVC may be associated with satellite communication electronics 1144, such as that necessary to interact with the global positioning system, and an antenna 1146 for bi-directional satellite communications. In addition to determining vehicle location, a GPS or similar system may be used to provide to the vehicle operator directions and/or listings of stations capable of interacting with the IVC. Similarly, the IVC may be coupled to or include cellular communication electronics 1140 and the necessary antenna 1142 for communicating with the various analog or digital cellular systems. With the satellite and cellular communication electronics 1140 and 1144, bidirectional communications can be provided to virtually any point regardless of location and distance relative to the vehicle.

Detailed Description Text (34):
The preferred communication method provides more local communications with systems substantially proximate to the vehicle. The vehicle will be equipped with local communications electronics 1136 and the necessary antenna 1138 to provide bidirectional communications with any number of systems. These systems are not limited to, but are preferably energy dispensing systems, toll plazas, parking facilities, emissions and diagnostic systems, car washes, restaurants, fleet fueling, Intelligent Vehicle Highway Systems (IVHS), or emergency service providers.

Detailed Description Text (35):
It is also envisioned that the IVC be coupled to or integrated with a vehicle control system 1118 capable of controlling various engine functions 1152,

diagnostic systems 1154, emission systems 1156, and any number of auxiliary functions 1158 or miscellaneous sensors 1160. The control system may also interact with the vehicle security system 1162, on-board vapor recovery equipment 1164, fuel status sensors 1166, and trip-related features and functions 1168. The IVC and/or vehicle control system 1118 will be able to monitor diagnostic or emission systems of the vehicle and communicate related information to the occupants of the vehicle and/or a remote system for further identification or processing of vehicles with diagnostic or emission problems or malfunctions.

Detailed Description Text (36):
For example, during a fueling operation at a fuel station, any diagnostic or emission problems may be forwarded through the local communication electronics to a corresponding interrogator or dispenser communication system and on to the proper authorities or the fuel station store. Providing such information to the fuel station provides a marketing opportunity for service equipped stations to address or correct any diagnostic or emission problems, as well as a system for endorsing government regulations. Similarly, security breaches, such as theft of the vehicle, may be reported in like manner.

Detailed Description Text (37):
With respect to fueling, information relating the amount of fuel, the size of the vehicle fuel tank and the type of the vehicle fuel tank may be transferred onto the fuel station store or fuel dispenser. This information may be used to control robotic or automatic fueling, and tailor a fueling operation to a particular vehicle in order to maximize delivery rates, fuel quality or octane levels. The fueling information may include quantity, ullage, quality or octane readings. For those vehicles equipped with on-board vapor recovery (ORVR) equipment, the status, type, efficiency and other related ORVR information may be communicated to the dispenser's vapor system in order to control vapor recovery at the dispenser and/or vehicle to maximize the vapor recovery effort while minimizing ingestion of non-hydrocarbon saturated air into the underground fuel tanks. For additional information relating to communications between the vehicle and a dispenser or dispensing system, attention is directed to U.S. Pat. application Ser. Nos. 08/650,917 filed May 17, 1996, entitled Precision Fuel Dispenser; 08/649,455 filed May 17, 1996, entitled Onboard Vapor Recovery Detection; 08/759,733 filed Dec. 6, 1996, entitled Intelligent Fueling; application entitled Transponder Communication of ORVR Presence (as yet unfiled); 09/034,969 filed Mar. 4, 1998, entitled Multistage Ordering System for a Fueling and Retail Environment; and 09/024,742 filed Feb. 17, 1998, entitled Fuel Dispensing System Providing Customer Preferences. The disclosures of these references are incorporated herein by reference.

Detailed Description Text (38):
With respect to FIG. 4C, the IVC preferably includes a microcontroller 1170 and associated memory 1172. The microcontroller and memory 1170, 1172 either include or are associated with various interfaces. These interfaces include multiple input/output interfaces 1174 for receiving and transmitting data to the various vehicle subsystems, and a video interface 1176 for receiving and transmitting video from the display 1122 and camera 1134. The docking interface 1102, as described, provides a coupling to the vehicle control system 1118 or bus or network system 1104. A network bus or device interface 1180 is provided to interface with a standard vehicle bus wherein various vehicle subsystems, including the vehicle control system 1118, are coupled to the same bus wherein each system is adapted to communicate with other systems as necessary to provide overall system functionality. The IVC also includes a communication interface 1182 as well as an optional direct vehicle control system interface 1184.

Detailed Description Text (39):
As those of ordinary skill in the art will recognize, there are a number of hardware configurations capable of providing the functionality described in

association with the intelligent vehicle controller. The IVC provides an integrated or portable user interface for vehicle occupants to communicate with systems remote to the vehicle. The IVC provides full function audio, video and graphics, as well as means to receive occupant input, transactional information and vehicle identification. The IVC and other vehicle systems are configured to provide information transfer relating to both the vehicle and occupants while providing a secure, merchandising and order entry system within the vehicle.

Detailed Description Text (40):
FIG. 5 shows a basic schematic overview of the dispenser electronics wherein a dispenser control system 80 includes a controller associated with the memory 82 to interface with the central control system 50 through an interface 146. The dispenser control system 80 provides a graphical user interface with key pad 102 and display 100. Audio/video electronics 86 is adapted to interface with the dispenser control system 80 and/or an auxiliary audio/video source 156 to provide advertising, merchandising and multimedia presentations to a customer in addition to basic transaction functions. The graphical user interface provided by the dispenser also allows customers to purchase goods and services other than fuel at the dispenser. The customer may also purchase a car wash and/or order food from the QSR while fueling the vehicle. The customer may be provided a video menu at the display 100 to facilitate selection of the various services, goods and food available for purchase. The card reader 88 and cash acceptor 90 allow the customer to pay for any of the services, goods or food ordered at the dispenser while the printer 92 will provide a written record of the transaction. However, the thrust of the present invention is to eliminate the need for customers to order at the dispenser and provide these functions from within the vehicle. The dispenser control system 80 is operatively associated with a dispenser interrogator 52, which has a receiver 142 and a transmitter 144. The receiver and transmitter typically associate with one or more antennas 108 to provide remote communications with the vehicle. The dispenser control system 80 communicates with the central control system 50 in the backroom 26.

Detailed Description Text (43):
In a QSR embodiment providing drive-thru capability, a remote order entry interface 186 is provided. The order entry interface 186 may include a simple menu board and audio intercom system 188, or in a more sophisticated embodiment, may provide for bi-directional video intercom using the audio intercom 188 and a video system 190 allowing the customer and QSR operator to audibly and visually interact with one another during order placement. The order entry interface 186 may also include an interrogator 60 having a receiver 192 and a transmitter 194, associated with one or more antennas 195, for communicating with a transponder of a customer when the customer is placing an order from within the vehicle or at the order entry interface 186.

Detailed Description Text (51):
For example, before or during the fueling operation, the customer may decide to order a few items from a menu displayed on the IVC or at the dispenser 18. As the customer enters the order, the order is associated with the customer or the customer's vehicle. The customer may choose to pay for the order along with the fuel at the dispenser via the IVC using stored account information, at the order pick-up place at the drive-thru window, or at one of the in-store registers associated with the QSR or the convenience store. Continuing with our example and assuming the transaction was paid for from the IVC, the customer will ultimately drive the vehicle around the fuel station store along the drive-thru lane and pass the customer position monitor 46. As the customer approaches the customer position monitor 46, the drive-thru position interrogator 62 will receive a signal from the vehicle indicating the customer is at a known position in the drive-thru lane. At this point, the QSR control system 168 will alert the food preparation area 40 to prepare the order and indicate to the order pick-up interface and controller 196 the position of the customer in the drive-thru lane. Once the customer reaches the

order pick-up window, the order pick-up interrogator will determine the presence of the vehicle and associate the customer's order accordingly so that the drive-thru window operator can deliver the freshly prepared order to the correct customer. Associating the customer with the appropriate order in a fueling environment having a QSR is quite different from traditional QSR drive-thru systems. With QSR's in a fueling environment, orders for pick up at the drive-thru window, or within the store for that matter, may be placed in a different sequence than the sequence in which the orders are actually picked up. The reason for the possible discrepancy between order placement and order pick up arises because orders can be placed at several locations, including the IVC, the fuel dispenser and the traditional order entry interface 44. In particular, those customers placing orders at the dispenser or IVC will most likely intermingle in the drive-thru line with those placing orders at the order entry interface 44. The present invention uses transponders to appropriately associate orders placed at different locations with the appropriate customer at a common pick-up location.

Detailed Description Text (52):
With this in mind, attention is drawn to the flow chart of FIGS. 10A and 10B representing the basic flow of various multistage ordering processes. The process begins (block 500) when the dispenser interrogator 52 receives a signal from a transponder and the dispenser control system 80 forwards transponder identification indicia (ID) to the central control system 50 for authorization (block 502). Information relating to whether or not an order was placed in the vehicle may also be transmitted. Authorization may occur locally at the central site controller 232 or at a remote host authorization network. The information to be authorized is generally financial or account information and can either be transmitted with the transponder ID or stored at the central control system 50 or the host network 94 in association with the transponder ID. In the latter case, either the host network 94 or the central control system 50 will associate the ID with the stored account information and then authorize the transponder based on the correlated account information. Preferably, the transponder is read and authorized as the customer and/or vehicle approaches or initially stops at the fueling position and preferably, at least, before a transaction is initiated to increase transaction efficiency.

Detailed Description Text (53):
As the customer fuels the vehicle, the dispenser may display various types of information including advertising and instructional information. Preferably, before or during fueling, the IVC will display options for ordering food items from the QSR or ordering a car wash at the car wash 24 (block 504) in addition to various messages, advertising and instructional information received from the dispenser or QSR. The menu information may be stored in IVC memory or it may be updated or completely downloaded to the IVC by transmitting the necessary information to the IVC before or during the fueling operation. The dispenser 18 may determine whether an order has been placed (block 506) based on signals transmitted from the IVC. The dispenser 18 will receive any orders placed by the customer via the IVC (block 508) and associate the order with the vehicle customer in some fashion (block 510), if the order is not automatically associated at the IVC before being transmitted. Typically, the order is associated with a transponder by (1) associating the order with the vehicle, (2) associating a code with the order, or (3) actually storing the order at the IVC. Those of ordinary skill in the art will recognize that there are many variations available for associating an order with a vehicle or customer. These variations are considered within the scope of this disclosure and the claims that follow.

Detailed Description Text (54):
Although there are various options, two general methods for associating an order with a transponder will be discussed below. With the first, no information for order association is transmitted to the transponder relating to the order. Instead, the electronics at the dispenser 18, central control system 50 or the QSR 22 stores

the order information and associates the order with the transponder ID. When one of the interrogators subsequently reads the vehicle or transponder ID, the pertinent system will correlate the order with the vehicle. The second method involves writing information to the vehicle through the dispenser 18 and subsequently transmitting that information to one of the system interrogators for authorization or order identification. The information written to the transponder may range from a code for identification authorization purposes to the complete order placed at the dispenser.

Detailed Description Text (60):
Although there are numerous variations to multistage ordering, the important aspects of the invention are associating a transponder with an order placed by a customer at the fuel dispenser and subsequently using information from the transponder to reassociate the order with that particular transponder. Order association may be automatic when the IVC is configured to send transponder or vehicle identification indicia with the order. Optionally, an additional interrogation stage may provide a further alert to a QSR operator of the approach of a customer to initiate food preparation or simply indicate the position of the customer in line.

Detailed Description Text (61):
The multistage ordering works equally well with QSR's and car wash systems. When a car wash is ordered from the IVC and sent to the dispenser (or any other communication electronics), the particular car wash ordered is associated with the transponder at the dispenser and subsequently reassociated when the customer approaches the car wash area 24 and is interrogated by the car wash interrogator 51. In the preferred embodiment, the dispenser operates in conjunction with the central control system 50 to provide authorization of the car wash purchased at the dispenser. When the customer is at the car wash 24, the vehicle is interrogated for an ID or a code, which the car wash controller and/or the central control system 50 recognizes as preauthorized. If additional security is necessary on any of these embodiments, the customer may receive a code or other indicia, such as a PIN, which they are required to enter or submit when the corresponding goods or services are received.

Detailed Description Text (62):
Importantly, the fuel dispenser 18 is not the only point of communications for an IVC where ordering may take place. A customer may, for instance, order a car wash in conjunction with placing an order for food or other merchandise. The interrogators at any terminal can as easily associate the car wash with the vehicle and operate through the central control system 50 to subsequently reassociate the vehicle and the ordered car wash at the car wash interface 48. The multistage ordering disclosed herein provides a solution for keeping track of various transactions in a fueling environment where customer orders are picked up in locations separate from where they are placed and very likely may not be picked up in the order they were placed.

Detailed Description Text (64):
In operation, the IVC is configured to 1) provide pre-stored or downloaded information, such as menu information, to the occupants of the vehicle, 2) receive order entries from one or more of the occupants, and 3) effect transfer of the occupant order to the necessary communication electronics associated in some manner with the QSR to effect order processing. With reference to FIGS. 11A-11C, a basic order entry, monitoring, and receipt process is described. The process begins (block 500) wherein the IVC displays downloaded or pre-stored menu selections on display 122. The menu information may be transmitted to the vehicle prior to arriving at the fuel station or QSR, as well as at any point throughout the fueling environment, including a fueling position. Preferably, the menu information is either pre-stored or downloaded once the vehicle comes within a communication range of any dispenser or QSR communication electronics. At that point, the menu may be

stored for future reference and/or an order may be entered prior to reaching the fuel station. For example, a menu stored at an earlier location may allow occupants to place their order wherein any price changes would be updated by downloading pricing information from the fuel dispenser. The menu information may be transmitted directly to the vehicle from fuel dispenser or QSR associated communication electronics, as well as indirectly via ground-based satellite communications.

Detailed Description Text (65):
Once the occupant views the menu, the IVC will receive occupant selections (block 504) and store these selections in the IVC as an order (block 506). Depending on the location of the vehicle and whether or not the vehicle is within communication range with the corresponding communication electronics (dispenser, QSR, satellite, cellular or other), the information may be automatically transmitted or transmitted upon receiving an occupant input to that effect. With more direct communications, the IVC may wait until it is interrogated or receives a signal indicating that the IVC is within range (block 508).

Detailed Description Text (67):
Once the identification indicia, order and financial information are transmitted, it is ultimately received by communication electronics associated with the QSR's order processing system (block 514). As noted, the information may be directly or indirectly transmitted via any type of ground-based or satellite communication network. Furthermore, information may be received at a fuel dispenser, near a fuel dispenser, or directly by the quick-serve restaurant. At this point, the order is sent to a food preparation terminal for processing (block 516). The order is processed and payment is effected, preferably by authorizing payment via a remote authorization or transaction authority (block 518). As discussed below, the order may be processed immediately or delayed based on the location of the vehicle to ensure the order is timely processed. Next, an order confirmation, order total and/or order ID is transmitted to the IVC (block 520). The IVC will ultimately receive and store the confirmation, order totals and/or order ID (block 522). This information may also be displayed to the occupant in the vehicle (block 524).

Detailed Description Text (68):
Typically, the customer order will be placed at a location apart from the order pickup area 36 of the QSR 22. Thus, the IVC must determine whether or not to transmit order or vehicle identification indicia for ultimate receipt by the quick-serve restaurant for order identification purposes. As noted, any type of communication is acceptable, but the preferred embodiment provides for the IVC to determine if it is being interrogated or is otherwise within range to transmit signals necessary to identify the IVC with the order (block 526). When the vehicle has been interrogated or is within communication range, an ID or code is transmitted for order identification processing (block 528). The ID is transmitted (block 530) to the customer location station 46, which is placed along the drive-thru lane to determine the alignment of vehicles in the drive-thru lane. The QSR will receive the ID information, correlate the ID information with an order (block 532), and determine the location of the vehicle in the drive-thru lane (block 534). Preferably, the necessary control system will alert food preparers of the vehicle's location or position in the drive-thru lane (block 536).

Detailed Description Text (69):
Next, the IVC must determine whether to transmit the order or vehicle identification ID to determine if the IVC is being interrogated or is within range of the order pickup position (block 538). Once the vehicle is within range or is being interrogated (block 540), the IVC will transmit the vehicle or order ID to identify the vehicle most proximate or located at the order pickup position (block 542). This signal will be received at the order pickup position 36 or a prepared order is associated with the vehicle or IVC (block 544), and, preferably, the relevant control system will instruct the QSR operator to deliver the proper order

to the corresponding vehicle (block 546), wherein the process ends (block 548).

Detailed Description Text (71):
In several aspects of the present invention, it is desirable to determine the location and/or proximity of a transponder, whether vehicle mounted or carried by a customer, with respect to a specific fueling position of a dispenser or interrogation system. In other aspects, it is desirable to track the transponder throughout the fueling environment 10. Although the embodiments described herein use the dispenser as a reference, any of the interrogation systems in the fueling environment may be adapted to determine transponder location and/or proximity.

Detailed Description Text (72):
Determining location and proximity of a transponder with respect to a fuel dispenser in a fueling environment presents a unique problem because the fueling environment includes multiple dispensers with multiple positions. At any given time, numerous transponders will be in or moving about the fueling environment and the many interrogation fields associated with the various interrogators. The dispensers and associated control systems must distinguish between personal and vehicle-mounted transponders used to carry out a transaction from transponders attached to a vehicle driving by the fueling position or carried by a person walking by the dispenser. Fueling environments must be able to avoid communicating with a second transponder during a transaction with a first transponder.

Detailed Description Text (80):
As noted, various combinations of these antennas can be used. For example, the preferred embodiment includes two mid-dispenser transmit antennas 251, two top-mount transmit antennas 255, and two top-mount receive antennas 257. The top-mount receive antennas 257 are adapted to receive signals transmitted from the transponder in response to signals from either the mid-dispenser transmit antennas 251 or the top-mount transmit antennas 255. In operation, when a customer-carried transponder 66 enters the field provided by the mid-dispenser transmit antenna 251, the transmitter reflects a signal which is received by the top-mount receive antenna 257. Alternatively, vehicle-mounted transponders 64 may enter the interrogation field provided by the top-mount transmit antenna 255 and respond with a signal received by the top-mount receive antenna 257.

Detailed Description Text (81):
The interrogation fields provided by any of the transmit antennas 251, 255, 259 may be adjusted to control the size and shape of the respective fields. For example, the system may be configured to more easily distinguish between transponders carried by a person and vehicle-mounted transponders by configuring the respective interrogation fields provided by the mid-dispenser transmit antenna 251 and the top-mount transmit antenna 255 or overhead transmit antenna 259, such that the respective interrogation fields do not overlap or overlap in a desired and select pattern. Thus, communications resulting from an interrogation with the mid-dispenser transmit antenna 251 indicate a transponder carried by the customer while communications resulting from the top-mount or overhead transmit antenna 255, 259 may be indicative of vehicle-mounted transponders.

Detailed Description Text (84):
Once the control system determines the field in which the transponder is responding, the appropriate location of the transponder is known (block 410). Typically, the transponder's response to the interrogation signal provides transponder identification indicia indicative of the type of transponder being interrogated (block 412). The type of transponder is generally vehicle mounted or carried by the person. Determining whether the transponder is vehicle mounted or carried by the person enables the control system to determine how to react to the presence of other transponders passing through the various interrogation fields during a communication with another transponder or make sure a transponder is properly located for the desired transaction. If the control system determines the

transponder is one carried by a person (block 414) and that the transponder was within the mid-antenna field (block 416), the control system allows the transaction to continue (block 420). If the transponder is a customer-carried transponder that is not within the mid-antenna field (blocks 414 and 416), the control system will return to the beginning of the process (block 418). The latter situation is indicative of a transponder carried by the person being interrogated in one of the top or overhead antenna fields, which are preferably used to interrogate vehicle-mounted transponders exclusively. Thus, the system preferably ignores transponders carried by the person outside of the mid-antenna field, which is preferably focused in a manner requiring the customer to be substantially in front of the customer interface of the appropriate fueling position. The field associated with the mid-dispenser transmit antenna 251 is limited only by design choice and may extend several or more feet in front and to the sides of the fuel dispenser.

Detailed Description Text (85):
If the control system is communicating with a customer-carried transponder within the mid-antenna field, the control system may monitor for the continued presence of the transponder in the mid-antenna field (block 422) or allow movement of the customer-carried transponder throughout the fueling environment (block 422). Notably, it is often desirable to only require the customer-carried transponder to be within the mid-antenna field long enough to start the transaction and fueling operation, and allow the customer to leave the fueling area during the fueling operation. Unlike a customer carried transponder, the control system would preferably require the presence of the vehicle in the appropriate transmission field throughout the fueling operation for safety reasons. Regardless of how the control system monitors the presence or movement of the customer-carried transponder during the transaction, the transaction will continue until complete (block 426), wherein the process will begin anew (block 428).

Detailed Description Text (86):
If the control system determines a vehicle-mounted transponder is within the appropriate transmission field (block 414), the transaction will continue (block 430).

Detailed Description Text (87):
Preferably, the control system will make sure that the vehicle has stopped moving and has been in position long enough to indicate a transaction associated with the responding transponder is likely. As noted above, the control system will preferably continue to monitor for the vehicle-mounted transponder's presence (block 432) throughout fueling. The control system is preferably capable of distinguishing responses from the vehicle-mounted transponder associated with the transaction from other personal or vehicle-mounted transponders entering one or more of the transmission fields (block 434). If a response to an interrogation signal is received that does not correspond to the vehicle-mounted transponder associated with the transaction, the response is ignored (block 436).

Detailed Description Text (88):
Preferably, the control system will ignore all responses of customer-carried transponders in the top-mount or overhead transmission fields. Erroneous responses from other vehicles are rejected based on the control system recognizing a response from a vehicle-mounted transponder having a different identification indicia from the vehicle-mounted transponder associated with the ongoing transaction. Likewise, the control system will ignore responses from transponders other than the authorized transponders to avoid communicating with transponders of other customers entering the field during a transaction. In such case, the control system may check the identification indicia to ensure communication continue with the appropriate transponder. During this time, the control system will continue with the transaction (block 438) until the transaction is completed (block 440).

Detailed Description Text (89):

If the transaction is not complete, the control system will continue to monitor for the presence of the vehicle-mounted transponder and any other transponders in the area (blocks 432-440). Once the transaction is complete (block 440), the process returns to the beginning (block 442). Although the preferred embodiment provides for mid and overhead transmission fields wherein transponder responses are received near the top or above the dispenser, those skilled in the art will recognize that numerous modifications of this configuration are within the inventive concept disclosed herein and subject to the claims that follow.

Detailed Description Text (90):
As noted, the interrogation communications system preferably communicates using substantially directional radio frequencies in conjunction with antennas configured to provide precisely shaped and directed interrogation fields. Communications at these frequencies are generally limited to line-of-sight communications wherein arranging the antennas to cover a common interrogation field from different locations avoids parallax and the effect of interference from objects coming between the transponder and one of the antennas. Generally, communications will require the absence of metal objects coming between the antennas and transponders. Thus, when antennas are mounted within the dispenser, glass or plastic dispenser walls are preferable. Furthermore, vehicle-mounted transponders are preferably placed on the windows or behind non-metal portions of the vehicle to avoid interference.

Detailed Description Text (91):
Preferably, high-gain antennas are used to provide a highly directional and configurable cone shape covering an area most likely to include a transponder when a vehicle is properly positioned for fueling. The antenna range and transmission power is typically adjusted to provide the desired interrogation field while minimizing the potential for the transponder to reflect signals to antennas associated with other fueling positions.

Detailed Description Text (92):
Another benefit provided by an embodiment of the present invention is that spread-spectrum communications limits the likelihood that an interrogator in the system will synchronize with a transponder being interrogated by another interrogator. Thus, a preferred embodiment of the present invention provides for a communications system capable of distinguishing between transponder types, limiting the potential of transponders erroneously communicating with another interrogator, simplifying communications by using the same carrier for transmission and reception, extending the interrogation field to more easily communicate with vehicle-mounted transponders, reducing the size of the antennas required for communication, and allowing either the same or same type of antenna to be used for transmission and reception.

Detailed Description Text (94):
Turning now to FIG. 13A, an alternative fueling environment 10 is shown having a station store 20 and the central control system 50 configured to communicate with each of the dispensers 18. Multiple vehicles 14 are depicted in and around the various fuel dispensers 18. Each of the dispensers may include an antenna 108. These antennas 108 may be operatively associated with a corresponding dispenser interrogator 52 and dispenser control system 80 (see FIG. 5). Please note that antenna placement will depend upon the application and may include placing the antennas anywhere in the fueling environment 10 separate from the dispensers 18. Placing the antennas at non-dispenser locations is especially operable in applications where the antennas are used to determine transponder location.

Detailed Description Text (95):
The antenna 108 and dispenser 18 configuration in FIG. 13A is specifically adapted to determine the proximity of a vehicle relative to a particular fueling position A, B associated with each dispenser 18. The different reception patterns are

depicted in association with the two left most dispensers 18. The circular reception pattern 250 would be used to determine the proximity of a vehicle with respect to a particular dispenser 18. Generally, only one antenna 108 is required for such an embodiment. As a vehicle approaches the dispenser having the circular pattern 250, the dispenser's corresponding interrogator 52 and dispenser control system 80 will receive a signal transmitted from the transponder 12, 14. The dispenser control system 80 will analyze certain characteristics of the signal received from the transponder, such as magnitude or strength, to determine a relative proximity to the dispenser. Typically, a dispenser 18 having an antenna configuration providing the basic circular pattern 44 is not able to distinguish at which side or fueling position A, B, the vehicle is positioned.

Detailed Description Text (96):
A dual-lobed pattern 252 associated with the second dispenser 18 from the left in FIG. 13A provides the dispenser control system 80 the ability to determine at which fueling position A, B the vehicle is located or approaching. In order to determine the particular fueling position A, B, a directional component is necessary in addition to the proximity component described above. To provide this directional component, multiple antennas may be used to create various types of reception lobes where the antennas may be configured to only receive signals from certain pre-set directions or areas. Regardless of the configuration, the dispenser control system 80 will monitor a characteristic of the signal determinative of proximity, such as magnitude or strength, in conjunction with determining the fueling position A, B to which the signal appears most proximate. In the dual-lobed embodiment 252, the dispenser control system 80 may measure the signal characteristics received at both antennas 108 to determine from which antenna the received signal was strongest in order to determine direction. Using directionally configured antennas will allow each antenna to focus on one fueling position. Alternatively, placing the antennas 107 in the forecourt under each fueling position allows for easy determination of vehicle placement relative to a fueling position as shown in FIG. 16.

Detailed Description Text (98):
The flow chart of FIGS. 14A and 14B outlines the process undertaken by the dispenser control system 80 to determine the proximity or location of a transponder 64, 66 with respect to a particular fueling position A, B of a dispenser 18. The process begins (block 700) with the dispenser control system 80 beginning to monitor for a transponder signal (block 710). The signal may originate from an active transmitter in the transponder or may reflect or scatter back to a dispenser interrogator 52 and antenna 108. Upon detection of a transponder signal (block 720), the dispenser control system 80 will monitor a characteristic, such as magnitude or phase of the signal (block 730). At this point, the dispenser control system 80 recognizes a transponder 64, 66 as near or approaching the dispenser 18 and continues to monitor for the presence of the signal (block 740). If the signal is lost or decreases, the dispenser control system 80 will determine that the transponder has left or is leaving the reception area and will begin to monitor for a new transponder signal (block 710). If the signal remains present and/or increases, the dispenser control system 80 will determine the proximity of the vehicle with respect to the dispenser (block 750). Preferably, the dispenser control system 80 will monitor to determine whether or not the signal strength is changing to ensure that the vehicle-mounted transponder 64 does not move during the fueling operation.

Detailed Description Text (99):
In order to determine the particular fueling position A, B at which the transponder is located, the dispenser control system 80 must determine which side of the dispenser the vehicle is at or approaching (block 760). The dispenser control system 80 may simply monitor the signal with antennas at or near the particular fueling position designed to receive using a directionally sensitive antenna configuration, such as the embodiment of FIGS. 12A and 12B, the dual-lobed configuration 252 of FIG. 13A, or the underground antennas 107 shown in FIG. 16.

Detailed Description Text (100):
Reference is again directed to FIGS. 14A and 14B. As a transponder approaches a particular fueling position A, B, the dispenser control system 80 determines if the transponder is within a certain fueling proximity (block 770). When the vehicle is within fueling proximity, it is in a position close enough for the fuel dispenser 18 at the corresponding fueling position A, B to allow fueling of the vehicle. If the vehicle is not within fueling proximity, the dispenser control system 80 continues to monitor the strength and direction of the signal (blocks 730-760). The dispenser control system 80 may determine whether the transponder or vehicle is within fueling proximity by simply receiving the transponder signal, receiving a signal magnitude above a predefined threshold, and/or determining whether the signal magnitude is changing, indicating that the transponder and vehicle are moving.

Detailed Description Text (101):
Once the vehicle is in position for fueling, the dispenser control system 80 activates the dispenser's fueling electronics as desired (block 780). During the fueling operation, the dispenser control system 80 continues to monitor for the presence of a signal in decision block 790. When the signal is no longer present, the dispenser electronics are deactivated at block 795, and the dispenser control system 80 monitors for the next transponder signal at block 710 causing the process to repeat.

Detailed Description Text (102):
FIG. 13B depicts an embodiment wherein the location of transponders may be tracked as they travel throughout the service station environment 10. In this embodiment, the dispensers 18 each include an antenna 108 capable of receiving a signal from a transponder 64. Preferably, signals from the antennas 108 are multiplexed together at the central control system 50. The various control systems will receive the transponder signal and monitor the location of the vehicle and determine the dispenser 18 and fueling position A, B at which the vehicle stops. The dispenser control system 80 may, for example, monitor a characteristic, such as the phase, of the signal received by the various antennas 108 associated with the dispensers 18 and use known computational techniques, based on the signal characteristics received at the various antenna locations, to determine vehicle location. One such technique using phase differences is triangulation.

Detailed Description Text (103):
Although the signal of only one vehicle transponder 64 is depicted, the various dispensers 18 and/or the central control system 50 may monitor for the presence and location of a plurality of vehicles to determine proximity, direction of travel and location throughout the fueling environment 10. Triangulation and other similar positioning and locating techniques generally require at least two antennas and provide better resolution as the number of antennas 108 increase. The location of the respective antennas 108 may be virtually anywhere in the fueling environment 10. Another alternative to multiplexing the various antennas located at the respective dispensers 18 or elsewhere in the fueling environment 10 is to use multiple antennas in each dispenser or throughout the fueling environment 10. Additionally, a global positioning system (GPS) could be used to communicate vehicle position directly or through a remote network 94 to the central control system 50 and on to the fuel dispenser 18.

Detailed Description Text (104):
The flow chart of FIG. 15 outlines the control process for the embodiment depicted in FIG. 13B. The process begins (block 800) and initially monitors for the presence of a transponder signal (block 810). Once the signal is received (block 820), the dispenser control system 80 monitors the characteristics of the signal for various antennas (block 830). The dispenser control system 80 will next determine the location of the transponder (block 840) using the monitored signal characteristics

at the various antennas to triangulate or otherwise determine vehicle location. The precise fueling position A, B of the corresponding dispenser 18 is determined (blocks 850 and 860) by calculating the position at which the vehicle stopped. The dispenser control system 80 for the dispenser where the vehicle stopped will determine if the vehicle is within the fueling area (block 870). If the vehicle is within the fueling area, the dispenser's fueling electronics are activated as desired (block 880). The dispenser control system 80 will continually monitor the location of the vehicle to determine if the vehicle remains within the fueling area (block 890). Once the fueling operation is over and the vehicle leaves the fueling area, the dispenser control system 80 deactivates the dispenser's fueling electronics (block 895) and monitors for a new transponder signal (block 810), whereupon the process is repeated.

Current US Original Classification (1):
705/1

Other Reference Publication (3):
CARB--Staff's Proposesd Recommendation For The Adoption Of The United States Environmental Protection Agency's Vehicle Refueling Standard and Test Procedures; Apr. 27, 1994.

CLAIMS:

1. An in-vehicle ordering system comprising: a. an occupant interface having a display and input device located within a vehicle cabin, said occupant interface adapted to provide a selection of items to order from a quick service restaurant and receive an occupant order via said input device; b. vehicle communication electronics associated with said occupant interface and adapted to wirelessly transmit the occupant order for ultimate receipt at the quick service restaurant; and c. a control system configured to display said selection of items to order on said display, determine the occupant order based on occupant input received via said input device, and effect wireless transmission of the occupant order.

2. The in-vehicle ordering system of claim 1 wherein said control system includes memory, and said selection of items to order is pre-stored in said memory.

3. The in-vehicle ordering system of claim 1 wherein said control system is configured to display said selection of items to order, receive the occupant order, and store the occupant order.

4. The in-vehicle ordering system of claim 3 wherein said control system is further configured to effect wireless transmission of the occupant order when an occupant input to transmit said order is received at said input device.

5. The in-vehicle ordering system of claim 3 wherein said control system is further configured to effect wireless transmission of the occupant order when a remotely transmitted signal is received via said vehicle communication electronics.

6. The in-vehicle ordering system of claim 3 wherein said control system is further configured to effect wireless transmission of the occupant order when a remotely transmitted signal is received from a transmitter associated with a fuel dispenser.

7. The in-vehicle ordering system of claim 1 wherein said vehicle communication electronics are configured to receive a remotely transmitted signal comprising the selection of items to order, and said control system is configured to receive the selection of items to order from said vehicle communication electronics and display the selection of items to order on said display.

8. The in-vehicle ordering system of claim 1 wherein said vehicle communication

electronics are configured to communicate with a first communication station configured to receive the occupant order and a second communication station configured to identify the occupant, vehicle, or said associated occupant order, said control system adapted to transmit via said vehicle communication electronics: said occupant order to the first communication station, and identification indicia to the second communication station.

9. The in-vehicle ordering system of claim 1 wherein said vehicle communication electronics are configured to communicate with a first communication station configured to receive the occupant order, a second communication station configured to identify the occupant or vehicle associated with the occupant order, and a third communication station configured to identify the occupant, vehicle, or said associated occupant order, said control system adapted to transmit via said vehicle communication electronics: a. said occupant order to the first communication station, b. identification indicia to the second communication station, and c. identfication indicia to the third communication station.

10. An in-vehicle ordering system comprising: a. an occupant interface having a display and input device located within a vehicle cabin, said occupant interface adapted to provide a selection of items to order from a quick service restaurant and receive an occupant order via said input device; b. vehicle communication electronics associated with said occupant interface and adapted to wirelessly transmit the occupant order for ultimate receipt at the quick service restaurant; c. an order processing station at the quick service restaurant where orders are processed; and d. station communication electronics for receiving the occupant order and communicating the occupant order to said order processing station.

11. A remote ordering system configured to ultimately communicate with an in-vehicle order interface, said ordering system comprising: communication electronics adapted to ultimately communicate with vehicle communication electronics associated with the in-vehicle order interface; an order processing terminal at a quick-serve restaurant adapted to display the occupant order for a food preparer; and a control system associated with said communication electronics and said occupant order processing terminal; said control system adapted to: a. receive the occupant order via said communication electronics; b. receive occupant account information; c. send the occupant order to said order processing terminal for processing; and d. effect payment for the occupant order based on said occupant account.

16. The remote ordering system of claim 11 wherein said communication electronics receive signals including the occupant order originating at the in-vehicle order interface and transmit signals containing information for ultimate receipt by the in vehicle order interface.

17. A multistage order system interacting with an in-vehicle occupant order system comprising: a) a fuel dispenser having first remote communications electronics adapted to provide wireless communications with the in-vehicle occupant order system; b) an order receipt position apart from said fuel dispenser for providing the customer with an order and having: i) second remote communications electronics adapted to provide wireless communications with the in-vehicle occupant order system; and ii) an output indicating the customer who placed the order is at the order receipt location; c) a control system associated with said first remote communications electronics of said fuel dispenser and said second remote communications electronics and said output of said order receipt position, said control system adapted to: i) communicate with the in-vehicle occupant order system through said first remote communications electronics when the in-vehicle occupant order system is proximate said fuel dispenser; ii) communicate with the in-vehicle occupant order system through said second remote communications electronics when the in-vehicle occupant order system is proximate said order receipt location; and iii) identify the order at the order receipt location associated with the in-vehicle occupant order system of the customer who placed the order at the in-

vehicle occupant order system and provide said output indicating that the customer who placed the order is at the order receipt location.

18. The multistage order system of claim 17 wherein said first and second remote communications electronics are adapted to receive data from the in-vehicle occupant order system.

19. The multistage order system of claim 18 wherein data transmitted to said first and second communications electronics includes an in-vehicle occupant order system identifier and said control system associates the customer order with the in-vehicle occupant order system identifier.

20. The multistage order system of claim 19 wherein the identifier is an in-vehicle occupant order system identification number.

21. The multistage order system of claim 17 wherein said first remote communications electronics is adapted to transmit data to the in-vehicle occupant order system and said second remote communications electronics is adapted to receive data from the remote communications unit.

22. The multistage order system of claim 21 wherein said control system is adapted to: a) provide order identification data and transmit said order identification data to the in-vehicle occupant order system when the order is transmitted from the in-vehicle occupant order system; and b) receive the order identification data from the in-vehicle occupant order system via said second communications electronics to identify the customer at said order receipt location.

26. The multistage order system of claim 17 wherein said first and second remote communications electronics are adapted to receive data from and transmit data to the in-vehicle occupant order system.

27. The multistage order system of claim 17 wherein said order receipt location includes an automatic car wash wherein the customer may order a car wash via the in-vehicle occupant order system and said control system will activate said car wash with said output when the customer is at an appropriate location proximate said order receipt location.

28. The multistage order system of claim 17 wherein said order receipt location includes a quick serve restaurant wherein the customer may order food or drink via the in-vehicle occupant order system and pick up the food order at said order receipt location.

29. The multistage order system of claim 17 wherein said order receipt location includes a vending machine wherein the customer may order food or drink via the in-vehicle occupant order system and pick up the food order at said order receipt location.

30. The multistage order system of claim 17 wherein said control system is associated with a remote payment/authorization network and the in-vehicle occupant order system is adapted to transmit financial data of the occupant to the fuel dispenser, said control system transmitting the financial data to the payment/authorization network to facilitate payment of fuel and the order.

31. The multistage order system of claim 17 wherein said communications electronics include interrogators adapted to transmit signals capable of being received and modified for transmission back to the interrogator by the in-vehicle occupant order system to facilitate communications.

32. The multistage order system of claim 17 wherein said communications electronics are adapted to communicate with a plurality of in-vehicle occupant order systems.

35. A multistage order system comprising: a) a fuel dispenser having first remote communications electronics adapted to provide wireless communications with the in-vehicle occupant order system; b) an order receipt position apart from said fuel dispenser for providing the customer with an order and having: i) second remote communications electronics adapted to provide wireless communications with the in-vehicle occupant order system; ii) a receipt position output indicating the customer who placed the order is at the order receipt location; and iii) an intermediate location output indicating the customer is proximate said intermediate locating position; c) an intermediate locating position located on a path of travel between said fuel dispenser and said order receipt position, said intermediate locating position having third remote communications electronics adapted to communicate with the in-vehicle occupant order system; and d) a control system associated with said first remote communications electronics of said fuel dispenser, said third remote communications electronics of said intermediate locating position and said second remote communications electronics and said output of said order receipt position, said control system adapted to: i) communicate with the in-vehicle occupant order system through said first remote communications electronics when said remote communications unit is proximate said fuel dispenser; ii) communicate with the in-vehicle occupant order system through said third remote communications electronics when said remote communications unit is proximate said intermediate locating position indicating said customer is near said intermediate locating position; iii) provide said intermediate location output indicating the customer is proximate said intermediate locating position; iv) communicate with the in-vehicle occupant order system through said second remote communications electronics when the in-vehicle occupant order system is proximate said order receipt location; and v) identify the order at the order receipt location associated with the in-vehicle occupant order system of the customer who placed the order at the order entry user interface of the fuel dispenser and provide said output indicating the customer who placed the order is at the order receipt location.

40. A multistage order system for a fueling environment comprising: a) a fuel dispenser operatively associated with a first receiver for receiving indicia via remote communications from an in-vehicle occupant order system associated with a customer; b) an order receipt location where the customer receives the order, said order receipt located apart from said dispenser and operatively associated with a second receiver for receiving the indicia via remote communications from the in-vehicle occupant order system associated with a customer; c) a control system operatively associated with said first receiver and said second receiver; d) said first receiver adapted to receive indicia from the in-vehicle occupant order system when said remote communications unit is proximate said fuel dispenser; e) said control system adapted to associate an order received from the in-vehicle occupant order system with the in-vehicle occupant order system; f) said second receiver adapted to receive said indicia from the in-vehicle occupant order system when the in-vehicle occupant order system is proximate said order receipt location; and g) said control system adapted to relate the indicia received at said second receiver with the indicia received at said first receiver and the order associated therewith.

41. A method of correlating remote orders using remote communications units comprising: a) entering an occupant order at an in-vehicle occupant order system; b) communicating with the in-vehicle occupant order system at a station to receive the occupant order; c) processing the occupant order at a remote receiving location; d) communicating with the in-vehicle occupant order system at the remote receiving location to associate the in-vehicle occupant order system with the processed order; and e) providing a customer associated with the in-vehicle occupant order system with ordered goods or services.

42. The method of claim 41 wherein step b) includes transmitting an in-vehicle

occupant order system identifier from the in-vehicle occupant order system to the station and step d) includes transmitting the in-vehicle occupant order system identifier from the in-vehicle occupant order system to the remote receiving location.

43. The method of claim 41 wherein step b) includes transmitting an order code to the in-vehicle occupant order system from the station and step d) includes transmitting the order code from the in-vehicle occupant order system to the remote receiving location.

44. The method of claim 41 wherein after step b) and before step d) the following steps are provided: i) communicating with the in-vehicle occupant order system at an intermediate location along a path of travel between the station and the remote receiving location; and ii) providing an alert that a customer is en route to pick up the order.

45. An in-vehicle ordering system comprising: a. an occupant interface having a display and input device located within a vehicle cabin, said occupant interface adapted to provide a selection of items to order from a restaurant or store and receive an occupant order via said input device; b. vehicle communication electronics associated with said occupant interface and adapted to wirelessly transmit the occupant order for ultimate receipt at the restaurant or store; and c. a control system configured to display said selection of items to order on said display, determine the occupant order based on occupant input received via said input device, and effect wireless transmission of the occupant order.

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